### ARCHITECTURAL RECORD

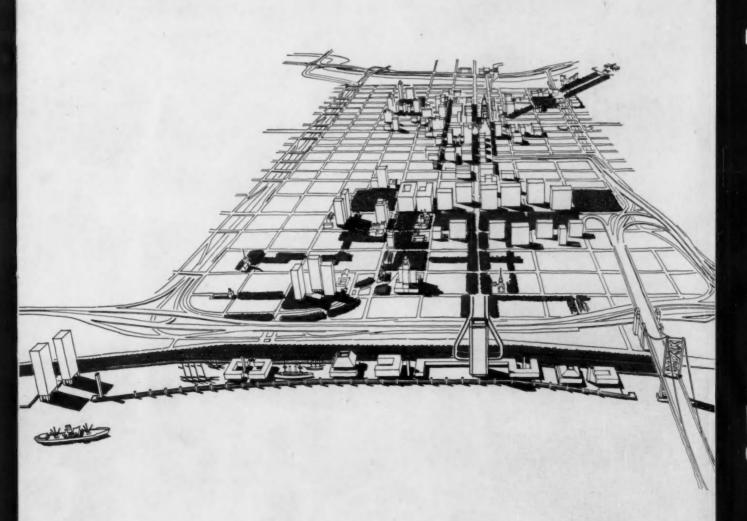
May 1961 5

Building Types Study: Facilities for Retailing

Downtown Philadelphia: A Lesson in Design for Urban Growth

Office Interiors for Rockefeller Foundation

Full Contents on Pages 4 & 5



SUMMITVILLE QUARRY TILE NEVER WEARS OUT. SUMMITVILLE QUARRY TILE NEVER WAERS OUT. SUMMITVILLE QUARRY TILE NEVER WEARS OUT. SUMMITVILLE QUARRY TILE NEVER WEARS OUT, SUMMITVILLE QUARRY TILE NEVEL WEARS OUT SUMMITVILLE QUARRY TILE NEVER WEARS S OUT SUMMITVILLE QUARRY TILE NEVER WEARS OUT. SUMMITVILLE QUARRY TILE NEVER WEARS OUT. SUMMITVILLE SUMMITVILLE QUARRY OUT LITE NEVER NEVER WEAT NEVER WEARS OUT. OUT RZ OUT SUMMITVILLE SUMM SUMMITVILLE QUARR QUAT MITVILLE QUAR TILE N

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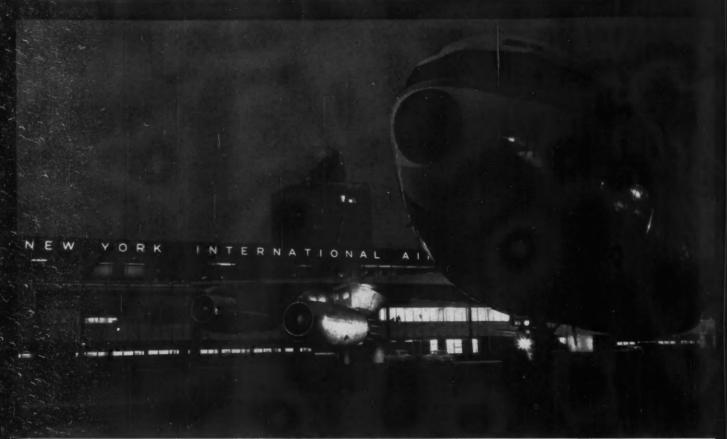
No failure due to thermal shock need be feared. Repeated cycles involving temperatures from freezing to boiling water have failed to cause even slight cracking in Durcon sinks. Warpage of Durcon sinks, even in boiling services, is definitely no problem.

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Right: Two Rotary Oildraulic passenger elevators serve "island" in center of Pan American World Airways Terminal Building.

Below: General freight in American Airlines hangar is moved between floors by 15,000 lb. capacity Rotary Oildraulic Elevator.





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Rotary Oildraulic equipment installed by BURLINGTON ELEVATORS, INC., NEW YORK



Rotary Levelator Lift (6,000 lb. capacity) raises freight to truck bed height for fast transfer to Pan American plane.



Potary Oildraulic Elevators · Passenger and Freight

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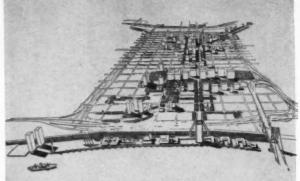
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ARCHITECTURAL RECORD May 1961 Vol. 129, No. 5 © Published monthly, except May 1961, when semi-monthly, by F. W. Dodge Corporation, a McGraw-Hill Company.

Executive, editorial, circulation and advertising offices: 119 West 40th Street, New York 18, N. Y. Western Editorial Office: 2877 Shasta Road, Berkeley 8, Calif. Printed in Concord, N. H.: second-class mail postage paid at Concord, N. H.

Subscription rate for individuals in the field served \$5.50 per year in U. S., U. S. Pressessions and Canada; single copies \$2.00, except Mid-May 1961 issue \$2.95. Further details on page 6. Postmarter: Please send Form B579 to Circulation Manager, ARCHITECTURAL RECORD, 119 West 40th Street, New York 18, N. Y. (Western Edition)

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#### ARCHITECTURE AND CHURCHES

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#### SAARINEN DESIGNS FOR IBM RESEARCHERS

For its researchers IBM provided a spacious and beautiful rural site in Kitchawan, N. Y.; Eero Saarinen, as architect for their new research center, has provided a dramatic curved building which offers the practicable possibility of a (one-story) "ivory tower" for each researcher within a plan of the most exemplary flexibility. The site and its panoramic outlook are both complemented and complimented in an adventurous design.

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SUBSCRIPTIONS: Available only by paid subscription. Publisher reserves the right to refuse non-qualified subscriptions. Subscriptions to Architectural Record solicited only from architects and engineers, Position, firm connection, and type of firm must be indicated on subscription orders forwarded to Circulation Manager, Architectural Record, 119 West 40th Street, New York 18, N. Y. Subscription prices: U. S., U. S. Possessions and Canada: \$5.50 per year; other Western Hemisphere countries, to those who by title are architects and engineers, \$9.00 yer year. Single copy price except Mid-May 1961 issue \$2.00; Mid-May 1961 issue \$2.55. Beyond Western Hemisphere, to those by title are architects and engineers, \$9.00 per year for 12 monthly issues not including Mid-May 1961 issue. Subscriptions from all others outside U. S., U. S. Possessions and Canada for 12 monthly issues, not including Mid-May issue, \$24.00 per year.

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The Methodist Country House, Wilmington, Delaware, Architects: Dollar, Bonner, Blake and Manning, Wilmington, Delaware.



West Penn Power Company, Connellsville, Pa. Architects: Hoffman and Crumpton, Pittsburgh, Pa.



Federal Low Rent Public Housing Project, Elberton, Ga. Architect; James M. Hunt, A.I.A., Elberton, Ga.



Harris Trust and Savings Bank, Chicago, Ill. Architects: Skidmore, Owings and Merrill, Chicago, Ill.



Northwestern Bell Telephone Company, Des Moines, Iowa. Architects: Tinsley, Higgins, Lighter and Lyon, Des Moines,

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This is the recently completed Skelly Oil Building, Tulsa. The upper 15 stories are pre-cast concrete curtain wall panels made with grey, green and white aggregates and Trinity White portland cement. They are generally 4'6" x 5' and 4'6" x 8' in size.

The pierced grill surrounding the second floor is 20' high. Panels are 4' x 4' x 8". White aggregate was used with the Trinity White.

The pre-cast exposed aggregate panels (Mo-Sai) and grilles were made by Harter Marblecrete Stone Co., Oklahoma City. Black & West, Tulsa, were the architects. Ask for full color book,

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### Conscious Design for Bad Taste?

Duty on an architectural jury is normally a pleasant surcease from your own creative endeavor. You give your mustache a figurative twirl, crank up your esthetic convictions another notch, and go forth on an artistic mission. Come the cocktail hour you are ready with a few Great Thoughts. Nothing wrong with that.

This observer learned to his sorrow recently that it doesn't always go so pleasantly. There have been several occasions on which, for one reason or another, there was some fear that the submissions would be too thin. Somebody would always remark, perhaps facetiously, that we didn't really have to come up with a winner. But on this particular tour of duty, for the first time in my experience, we did not premiate a single entry. Makes for a long day, and a trying one.

Detention homes for delinquent children was the subject. And the judging started on an enthusiastic note, as it was felt that this type of building was emerging from a dark age, promising enlightened dedication. Children were to be cared for, salvaged, encouraged. The A.I.A. responded cheerfully to an appeal to dignify years of forward-looking work with an architectural competition. Two ardent advocates of the new programs sat down with three defenders of the architectural faith, to pick two winners (large and small classes).

I say "defenders of the faith" only because that's where we ended up: it's not where we began. We listened patiently and with interest to a considerable lecture on program requirements and criteria. We agreed that these would have full weight; in fact they seemed likely to conduce to good architecture.

But it was soon apparent that they didn't, or hadn't. By lunch time all entries had had a pretty careful first inspection, and the disappointment of three of the jurors was pronounced. Distress showed more plainly during the afternoon, and the day ended on

the dismal note of no premiation.

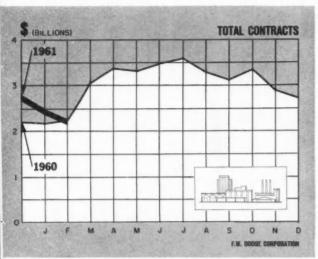
It proved difficult to explain that the disappointment as to architectural achievement was of a negative, not positive, order: we were not saying that what we saw was bad; we were saying that it was not good. Actually there were two or three submissions which showed the creative touch we were seeking, but these proved to have violated the credo too badly to be accepted by the program element of the jury. So architectural criteria clashed with program criteria, and this was just what shouldn't have happened.

The why of it bothered me, and it still does. I confess to thinking, during the tension of the afternoon, that a program can be so finite as to stultify the creative efforts of the designer. It might be true, but I really doubted that it was in this instance. The whole trouble, architecturally speaking, was that creative effort seemed simply turned off, and a program could hardly do that. It might be, as was suggested, budget trouble, but that explanation also seemed inadequate. Or perhaps it was budget trouble as regards architectural fees; this was pure surmise, but it did seem to be getting closer.

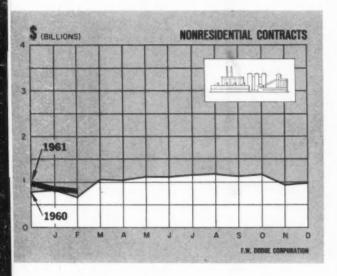
The dead hand of government sponsorship finally appeared as the most likely generalization. Maybe government is too tight with its fee schedules, but you have to carry it farther than that. Low fees or not, you have to work hard to achieve that barracks or warehouse look that so generally characterizes our post offices, public housing, hospitals, office buildings, courthouses—name it yourself.

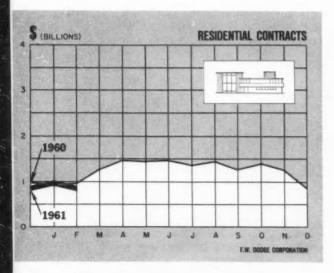
There was a time when a government commission called for the best efforts of top architects. But now—excepting the late embassy program—architectural creativity seems suspect, and building design has been beaten down to a conformist mediocrity. It's as if we were consciously designing for bad taste, as in TV programs.—Emerson Goble

### Current Trends in Construction



Total contracts include residential, nonresidential, heavy engineering contracts





### SIGNS THE RECESSION IS ENDING

THERE HAS BEEN a great deal of talk, to which we have contributed our share, on the enormous population growth expected in the United States during the Sixties. Our favorite analogy is that we are adding the equivalent of metropolitan Chicago, suburbs and all, every two years. Obviously, there is a good deal of significance in this for the construction business, because we must supply the equivalent of all the facilities of a Chicago, and then some, each biennium.

BUT TOTAL population is only a part of the story. Of equal importance (in fact, of much more importance to those whose interests are purely regional or local) is the question of where population growth will take place. There is food for a great deal of thought in the figures for the 1950's, recently compiled as part of the 1960 Census. It is apparent from the new data that widely divergent trends exist in different parts of the country, and more important, that the trends are shifting. The facts are pleasant or unpleasant, depending on one's attachment to a particular area; nonetheless, they are facts. Some examples: There has been very rapid growth on the East Coast, from Connecticut to Virginia; and the fastest-growing state in the nation is Florida. Northern New England and the Plains States, on the other hand, have been growing quite slowly. A few states actually lost population in the Fifties. Southern California gained greatly, but further north along the Pacific Coast the increases were not so notable.

THERE IS ROOM for considerable research and speculation as to the causes of these trends, and their future course. A glance at the map, however, seems to make a few things clear. Among them are these: a movement to the Southern climates; a movement toward water, on the Coasts and on the Great Lakes; and continued concentration around the government and business headquarters cities of Washington and New York. Complicating the picture, and not so readily apparent, has been a substantial race migration.

CONSTRUCTION ACTIVITY, despite the very bad weather this past winter, showed considerable promise in the opening months of 1961. Contract awards, as reported by Dodge for January and February, were running some six per cent ahead of the corresponding months of 1960. Single family homes continued to sag, but apartments were up; the result is that apartments accounted for more than a fourth of all the dwelling units put under contract, the highest proportion in many years. Office and bank building contracts were up, while stores declined a little. On the whole, the construction picture seemed to indicate that the recession was ending in the first quarter of 1961.

> GEORGE CLINE SMITH Vice president and chief economist F. W. Dodge Corporation A McGraw-Hill Company

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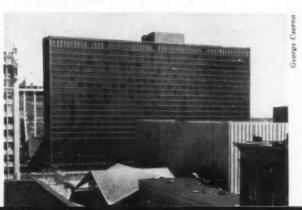
### Buildings in the News

Town Center Plaza, Southwest Washington, D.C.: Town Center Towers East, twin nine-story apartment structures, comprise the first half of the development which will include four apartment buildings on a 20-acre site, an intown shopping center with approximately 17 stores and a plaza with recreational facilities. The two completed buildings utilize an advanced reinforced-concrete construction method that produces a "stretched skin" effect. Contractors: Blake Construction Company



Kips Bay Plaza, New York City: the first of twin apartment towers in the \$22,000,000 10 acre apartment development is now ready for occupancy. Twin 21-story buildings will contain a total of 1120 apartments. Included in the development are an underground parking garage, land-scaped plaza, shopping center, medical building. Contractors: Webb & Knapp Construction Corp.

Zeckendorf Plaza Development, Denver: view shows 1000room Denver Hilton Hotel with its concrete and stone facade. On the other side of the tall slab are ballrooms and office facilities. In the foreground is the May Department Store and ice skating rink, part of the complex. Contractors: Webb & Knapp Construction Corp.



### I. M. PEI WINS BRUNNER AWARD FOR 1961

I. M. Pei has won the 1961 Brunner Award of \$1000 of the National Institute of Arts and Letters. He will receive the award, given annually since 1955 to an American architect who has made a contribution to architecture as an art, at the Joint Annual Ceremonial of the National Institute and the American Academy of Arts and Letters on May 24.

Shown on this page are some of his recent principal projects, each of them developed by Webb & Knapp, Inc. or Webb & Knapp affiliates.

Buildings of his design still uncompleted are: the Green Center for Earth Sciences, Massachusetts Institute of Technology; the Multi-Airline Terminal, New York International Airport; and the Metropolitan Tower, Honolulu, Hawaii.



Place Ville-Marie, Montreal: a 42-story anodized aluminum tower dominates the seven-acre commercial development now under construction and scheduled for completion in mid-1962. The tower, with 1,500,000 sq ft of office space, is surrounded by several smaller office buildings. The project includes two levels of underground parking for 1000 cars and an underground level of shops and arcades. Contractors: Foundation Company of Canada Limited



HUGH FERRISS RENDERING OF THE WINNING DESIGN in the Franklin Delano Roosevelt Memorial Competition: the entry of architects William F. Pederson and Bradford S. Tilney of New York, in association with Norman Hoberman, sculptor, Joseph Wasserman and David Beer, associates, and Ammann and Whitney, structural engineers. The Record regrets that a caption on page 177 of the March issue erroneously identified a model photograph as a photograph of the Ferriss rendering

Taliesin Associated Architects, an affiliate of the Frank Lloyd Wright Foundation, have created preliminary plans for a new Ascension Evangelical Lutheran Church to be located on a ten-acre site at the foot of Mummy Mountain in Scottsdale, Arizona.

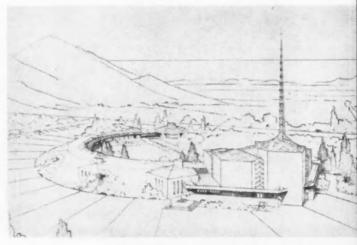
The church will have a sanctuary to seat 750, Sunday school rooms and offices, assembly and other administrative quarters, a chapel and other spaces for related functions.

The initial phase of construction, expected to begin next fall, outlines expenditure of \$400,000. The projected completed cost was estimated at more than \$1,000,000, with Easter Sunday, 1962 as the completion target date.

The ceiling above the sanctuary will rise in a series of polygonal patterned domes graduating in length. The highest dome above the altar will be pierced to allow sunlight to fall on the worship center below, and will be surmounted by a slender gold metal spire.

Other features include a semi-circular wing for classrooms and offices; an earth bank to shield the central enclosed court from exterior parking areas; a parking area six ft below the general floor level; a central garden court; play areas; a pool with fountain jets; a social fireside room with provisions for serving 300 persons and an outside patio.

# TALIESIN ARCHITECTS DESIGN ARIZONA CHURCH

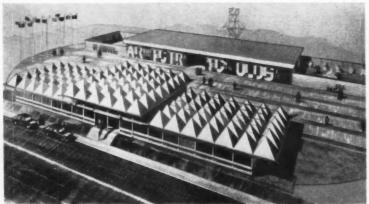


ARCHITECTURAL RECORD May 1961

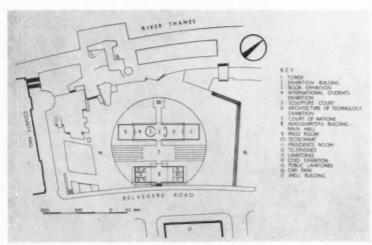
### Buildings in the News



Model of I.U.A. Congress' identifying 42-ft tower designed by John Ernest. Erection by Scaffolding Ltd; engineer: T. W. Blackmore of S.G.B.



Drawing of the two temporary buildings being erected in London for the I.U.A. Congress. In the foreground, the Headquarters building; in the background, the Exhibition hall



Ground plan of the two buildings and tower

### TWO NEW BUILDINGS FOR I.U.A. CONGRESS

Two new temporary buildings designed by Theo Crosby, A.R.I.B., will house the meetings and exhibitions of the 6th International Union of Architects' Congress which will be held in London July 3-7. Located on the site of the old Dome of Discovery (one of the highlights of the 1951 South Bank exhibition) beside the River Thames, the Exhibition building and the Headquarters building are being erected free of charge by Taylor Woodrow Construction Ltd. of materials lent by manufacturers.

The Exhibition hall has no windows, but a roof of polythene sheeting. The structure consists of a galvanized steel space frame on galvanized tubular steel uprights, scaffold-board walls, a floor of concrete paving blocks.

Connected with the Exhibition hall by a paved area, the Headquarters building uses basic materials of glass, aluminum and asbestos insulation board. The roof, basically a rectangular grid, is composed of a mass of tetrahedrons each 8 ft sq on a base of aluminum sheet. Roof calculations were done by Dr. Z. S. Makowski, Imperial College of Science and Technology, London, in collaboration with the British Aluminium Company's research department and Frank Newby of F. J. Samuely & Partners.

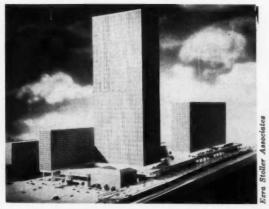
The unity of the two contrasting structures is achieved by basing designs on a rigid dimensional system—multiples, divisions or repetitions of the 4 ft module Exhibition hall's space roof deck.

### A.I.A. Sends Delegates

More than 1500 architects from all over the world will attend the Congress organized by the Royal Institute of British Architects through the 1961 Congress Organizing Committee of I.U.A.

The five official delegates from the American Institute of Architects to the Congress are: Philip Will Jr., F.A.I.A., president of the Institute; Edmund R. Purves, F.A.I.A; Samuel I. Cooper, F.A.I.A.; Henry Churchill, F.A.I.A.; and Ernest A. Grunsfeld Jr., F.A.I.A.

The theme of the Congress will be "New Techniques and Materials—Their Impact on Architecture." Three major papers will be delivered by Professor Henry Russell Hitchcock of Smith College, Professor Pier Luigi Nervi of the University of Rome, Italy and Professor Jerzy Hryniewiecki of Warsaw Polytechnic. Poland.



(right) Artist's rendering of downtown Manhattan showing proposed World Trade Center on site. 1) 72-story World Trade Mart 2) circular 8-story Securities Exchange 3) 20-story Center Gateway 4) 30-story World Commerce Exchange 5) 6-level Concourse 6) heliport 7) housing 8) Battery Park. (above) Buildings rise from Concourse and Plaza. At right of Trade Mart tower is Commerce Exchange; at left, Trade Center Gateway, its first floor elevated 50-ft for colonnade over main entrance of Center





(above) A two-level 1400 ft long enclosed landscaped plaza on third and fourth levels of Concourse has glass-domed apertures. Shops, restaurants line both Plaza levels. (below) Three double-deck bridges such as one in foreground, equipped with motor stairs to both levels, are main pedestrian access to Center



# PROPOSED WORLD TRADE CENTER IN MANHATTAN

The establishment of a World Trade Center in the New York-New Jersey Port District has been recommended in a report by the Port of New York Authority to Governor Nelson A. Rockefeller of New York, Governor Robert B. Meyner of New Jersey and Mayor Robert F. Wagner of New York City.

Based on a year's study by the Authority following a recommendation by the Downtown-Lower Manhattan Association, the report proposes the redevelopment of 16 acres adjacent to the traditional core of world trade activity in lower Manhattan. The World Trade Center, to cost at least \$355,000,000, would comprise a multi-level Concourse; 72-story World Trade Mart; circular 8-story Securities Exchange; 30-story World Commerce Exchange; and 20-story Trade Center Gateway.

The planning of the architectural complex was done by architect Richard M. Adler of the firm of Brodsky, Hopf & Adler with the guidance of a Board of Architects composed of Gordon Bunshaft of Skidmore, Owings & Merrill; Wallace K. Harrison of Harrison and Abramovitz; and Edward Durell Stone.

The unifying element of the proposed center would be a 1600 by 400 ft enclosed five-level Concourse and landscaped Plaza above a single-story service area. This would house various world trade service activities and facilities essential to the operation of the Center.

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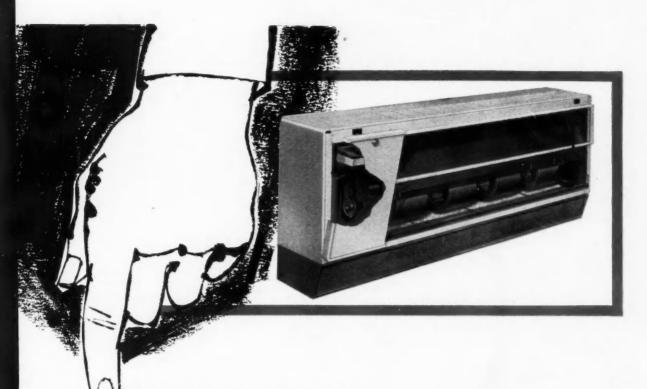
**UNIFORM WARMTH** is provided in this entrance by a Type FF-FB Modine cabinet unit heater. PERMA-LAP framing assures neat, permanent recessing.



CHILLING BLASTS of winter pose no problem here. A Type FT free-standing Modine cabinet unit heater effectively blankets theater lobby with heated air.



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C-1428

### Construction Cost Indexes

Presented by Chyde Shute, Director of Statistical Policy, Construction News Div., F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assoc. Inc.

Labor and Materials: U.S. average 1926-1929=100

NEW YORK

### ATLANTA

	RESIDENTIAL		APTS., HOTELS, OFFICE BLDGS. Brick and	COMMERCIAL AND FACTORY BLDGS. Brick Brick and and		RESIDENTIAL		APTS., HOTELS, OFFICE BLDGS. Brick and	FACTORY BLDGS.  Brick Brick and and	
PERIOD	Brick	Frame	Concrete	Concrete	Steel	Brick	Frame	Concrete	Concrete	Steel
1930	127.0	126.7	124.1	128.0	123.6	82.1	80.9	84.5	86.1	83.6
1935	93.8	91.3	104.7	108.5	105.5	72.3	67.9	84.0	87.1	85.1
1939	123.5	122.4	130.7	133.4	130.1	86.3	83.1	95.1	97.4	94.7
1949	243.7	240.8	242.8	246.6	240.0	189.3	189.9	180.6	180.8	177.5
1950	256.2	254.5	249.5	251.5	248.0	194.3	196.2	185.4	183.7	185.0
1951	273.2	271.3	263.7	274.9	271.8	212.8	214.6	204.2	202.8	205.0
1952	278.2	274.8	271.9	265.2	262.2	218.8	221.0	212.8	210.1	214.3
1953	281.3	277.2	281.0	286.0	282.0	223.0	224.6	221.3	221.8	223.0
1954	285.0	278.2	293.0	300.6	295.4	219.6	219.1	233.5	225.2	225.4
1955	293.1	286.0	300.0	308.3	302.4	225.3	225.1	229.0	231.5	231.8
1956	310.8	302.2	320.1	328.6	324.5	237.2	235.7	241.7	244.4	246.4
1957	318.5	308.3	333.1	345.2	339.8	241.2	239.0	248.7	252.1	254.7
1958	328.0	315.1	348.6	365.4	357.3	243.9	239.8	255.7	261.9	262.0
1959	342.7	329.0	367.7	386.8	374.1	252.2	247.7	266.1	272.7	273.1
1960	351.6	337.2	377.7	395.8	380.6	259.2	253.3	274.7	282.5	278.8
Dec. 1960	354.0	338.9	381.0	399.5	381.3	259.8	252.9	276.6	285.2	278.9
Jan. 1961	357.2	341.3	385.8	406.3	385.1	259.1	252.0	276.5	285.2	278.8
Feb. 1961	357.9	341.7	386.9	407.9	386.4	259.1	252.0	276.5	285.2	278.
	% increase over 1939					96 increase over 1939				
Feb. 1961	189.8	179.2	196.0	205.8	197.0	200.2	203.2	190.7	192.8	194.

### ST. LOUIS

### SAN FRANCISCO

1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.6	104.9	100.4
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8	216.1
1950	232.8	230.7	221.9	225.3	222.8	227.0	223.1	222.4	224.5	222.6
1951	252.0	248.3	238.5	240.9	239.0	245.2	240.4	239.6	243.1	243.1
1952	259.1	253.2	249.7	255.0	249.6	250.2	245.0	245.6	248.7	249.6
1953	263.4	256.4	259.0	267.0	259.2	255.2	257.2	256.6	261.0	259.7
1954	266.6	260.2	263.7	273.3	266.2	257.4	249.2	264.1	272.5	267.2
1955	273.3	266.5	272.2	281.3	276.5	268.0	259.0	275.0	284.4	279.6
1956	288.7	280.3	287.9	299.2	293.3	279.0	270.0	288.9	298.6	295.8
1957	292.0	283.4	295.2	307.1	302.9	286.3	274.4	302.9	315.2	310.7
1958	297.0	278.9	304.9	318.4	313.8	289.8	274.9	311.5	326.7	320.8
1959	305.4	296.4	315.0	329.8	323.9	299.2	284.4	322.7	338.1	330.1
1960	311.4	301.0	322.2	337.2	329.2	305.5	288.9	335.3	352.2	342.3
Dec. 1960	312.8	301.9	324.6	339.6	329.6	302.0	283.6	337.1	355.3	343.5
Jan. 1961	313.0	300.7	326.1	343.1	330.7	300.6	281.7	337.0	355.2	343.2
Feb. 1961	313.0	300.7	326.1	343.1	330.7	300.6	281.7	337.0	355.2	343.2
	% increase over 1939					% increase over 1939				
Feb. 1961	184.0	181.0	174.7	186.4	177.9	184.6	183.7	187.0	191.4	194.6

Cost comparisons, as percentage differences, for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A=110index for city B=95(both indexes must be for the same type of construction). Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110 - 95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.



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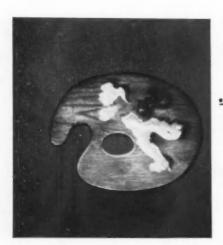
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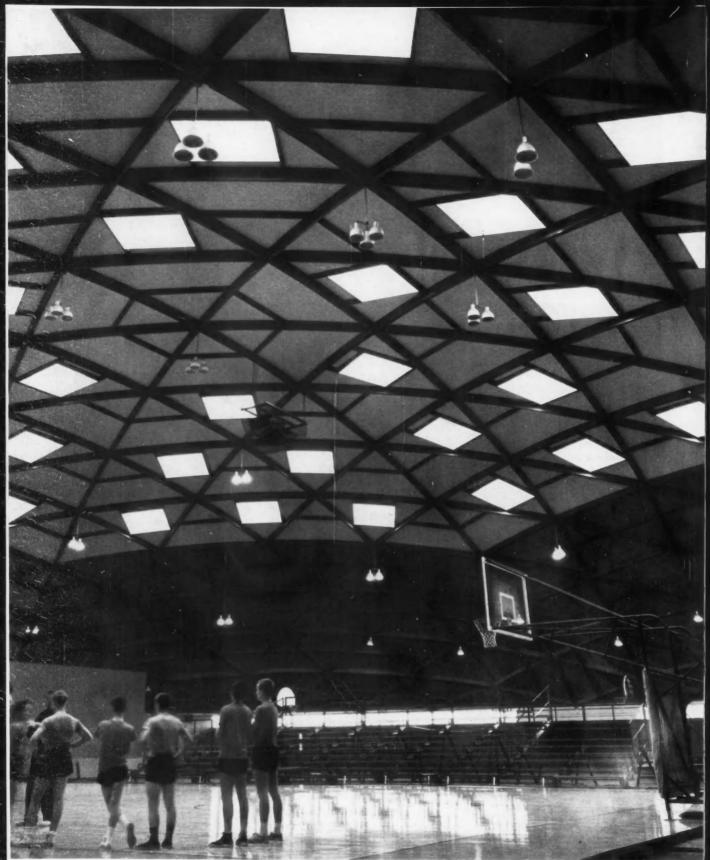


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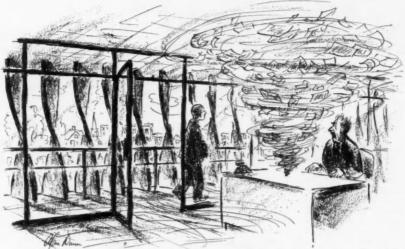
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### Meetings and Miscellany



"Close that door!"

Drawn for the Record by Alan Dunn

### Rockwell Appointed Director, A.I.A. Public Affairs

Matthew L. Rockwell, practicing architect, planner and professional engineer of Winnetka, Ill., has been appointed Director of the Division of Public Affairs of the American Institute of Architects.

The division is one of three recently created under a reorganization of the A.I.A. headquarters staff. The other two are the Division of Member Services, headed by Theodore W. Dominick, A.I.A., and the Division of Staff Administration and Convention Management, headed by J. Winfield Rankin.

The Department of Public Affairs activities include government relations, public relations, and all A.I.A. publications, as well as all programs related to housing and community planning.

Among Mr. Rockwell's special assignments are the strengthening of A.I.A.'s services to its chapters and individual members, dealing with government agencies on all levels and developing effective programs to promote the "image of the architect" in the public mind across the nation.

Mr. Rockwell, who began his career as assistant planner of the Chicago Regional Planning Association in 1939, has worked with Boston's Urban Land Institute and the Chicago Plan Commission. A partner in the firm of Stanton and Rockwell, he is a past president of the Chicago Chapter of the American Institute of Planners and former lecturer in city planning at the Illinois Institute of Technology.

### 1961 Competition Announced: Massey Architecture Medals

In the fifth competition since its inauguration in 1950, the Royal Architectural Institute of Canada, with the concurrence of the Massey Foundation, invites the submission of entries for the 1961 Massey Medals for Architecture. One gold and nineteen silver medals will be awarded to the twenty outstanding buildings entered.

Eligible are buildings designed by architects registered and resident in Canada, although the buildings may be located anywhere in the world. They must have been completed and occupied for the first time since September 30, 1951.

The Jury of Selection will consist of Pietro Belluschi, F.A.I.A., Dean of the School of Architecture at Massachusetts Institute of Technology, Boston; John Bland, F.R.A.I.C., Director of the School of Architecture at McGill University, Montreal; and Peter Thornton, F.R.A.I.C., of the firm of Gardiner, Thornton, Gathe and Associates, Vancouver, B.C.

A preliminary judgment June 19-20 will select 100 outstanding buildings, final judgment being held Oct. 2-3 to select Medal winners. Announcement and medal presentation and opening of the exhibition at Ottawa's National Gallery will be Nov. 2, the exhibition on view through Nov. 23.

The entry form with registration fee of \$5.00 for each building must be sent to the Executive Offices of the Royal Institute, 88 Metcalfe St., Ottawa, Canada by May 15.

### Michigan Society of Architects 47th Annual Convention

About 600 architects, wives, exhibitors, and guests attended the 47th Annual Convention of the Michigan Society of Architects at the Sheraton-Cadillac Hotel April 5th to 7th.

The theme of the meeting was "Urban Renewal," which was discussed in three seminars. The first, entitled "Tools for Urban Renewal," was moderated by H. G. Sheltraw of Saginaw; the second, on "The Architect's Role in Urban Renewal," by William Rippatte of Kalamazoo; and the third, on "The City Renewed," by John Paul Jones of Grand Rapids. A group of distinguished architects and planners from various cities served as panelists. Architect Arthur O. Moran of Birmingham was general chairman.

Principal speakers for the luncheons and dinners included Philip Will Jr., A.I.A. President, Charles A. Blessing, A.I.A., Detroit Planning Director, and G. Herbert True, University of Notre Dame.

The Society's gold medal was presented to Joseph William Leinweber for "long and distinguished service to the architectural profession in the Detroit area, as well as for service to the American Institute of Architects and the Michigan Society of Architects."

An honorary membership was given to J. Gardner Martin, District Engineer for the Portland Cement Association, for his contribution in "improving human relationships within the profession and building industry." —James S. Hornbeck.



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When the National Bank of Tulsa, Oklahoma, decided to remodel and extend their two areas of banking service, they chose Eggers Plywood Company to produce all the architectural plywood. They knew Eggers superior craftsmanship and experience in providing hardwood doors and paneling for over seventy-seven years was yet to be excelled.

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- \*AlA Architect H. G. Barnard, Jr.
- Ultramodern mezzanine features Eggers custom matched teak imported from Burma for walls, doors and louvered room dividers.
- Perfect matching of teak flitch even around corners is found in executive suite.
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- 4. Architectural plywood is used below counters and on back wall, providing a continuous grain effect.

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STREET .

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(he said)



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He agreed, and under the contractor's super-

vision we fastened a steel plate to a concrete wall (on his premises) using one dozen Ramset powder-driven fasteners, catalog number 3318. A standard Ramset Johnster tool was used for the installation. Then, a calibrated pull-out load was applied to the plate.

At 13 tons the wall failed.

A chunk of the contractor's wall was suddenly (and eloquently) lying on the ground, metal plate still attached, 12 Ramset drive pins still firmly imbedded in concrete. No further words were needed. We had an instant convert, and Ramset fasteners were used extensively in his next project. (We've had a lot of converts over the years, including many of the world's leading architects and contractors.)

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ture, we'll supply you with all the vital numbers. You can also call your local Ramset dealer, he's listed under "Tools" in the Yellow Pages. He'll give you our award-winning fastener handbook edited especially for architects and engineers. And if you're really interested, why not challenge us? We'll set up a test to your specifications, in your locality. No obligation of course. (But that works both ways; if we use your wall, we won't be obligated either.)



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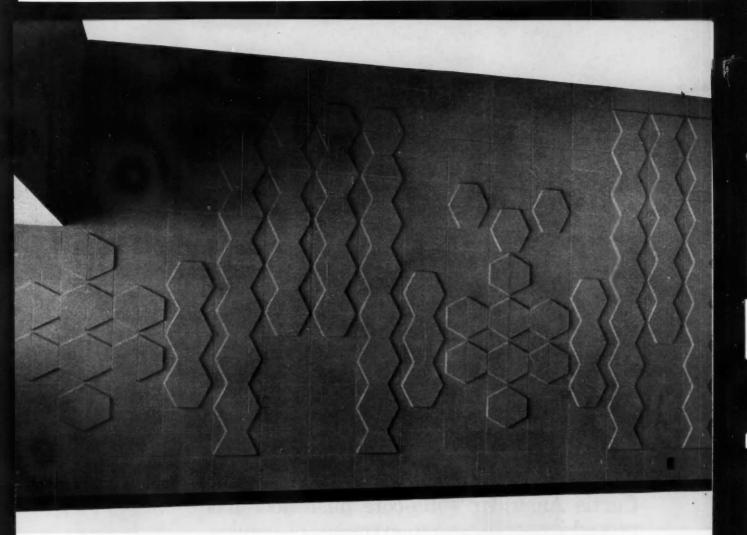
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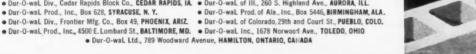
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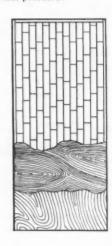


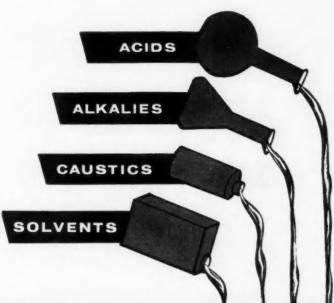
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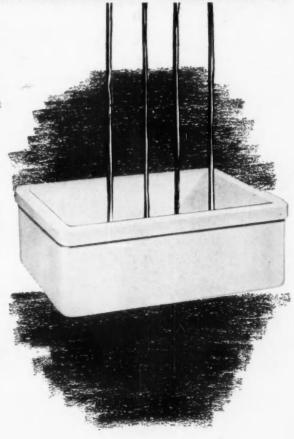
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108-G

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Architects: Johnston & Smith Payette, Idaho



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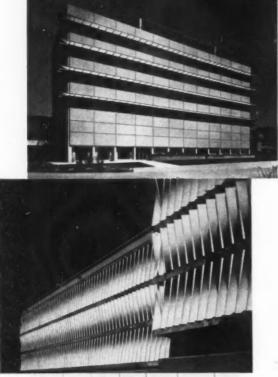
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### ARCHITECTURAL RECORD

### Western Section®

WESTERN SECTION EDITOR: Elisabeth Kendall Thompson, A.I.A.

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# How Old Is Young?

It used to be that "young" meant young. There was a clear—if not precisely defined—idea of the timespread covered by that term "young." But things are different now. Especially in architecture, as the august Architectural League of New York found in its last "Young Architects" show.

The League first announced that it would consider the work of architects under 40. This was an advance of five years over the age limit of previous League shows. But the number of potential exhibitors under 40 proved so embarrassingly small that the League was forced to raise the limit to 45. Even then it felt that the exhibition might have benefited from a further raise in age limit.

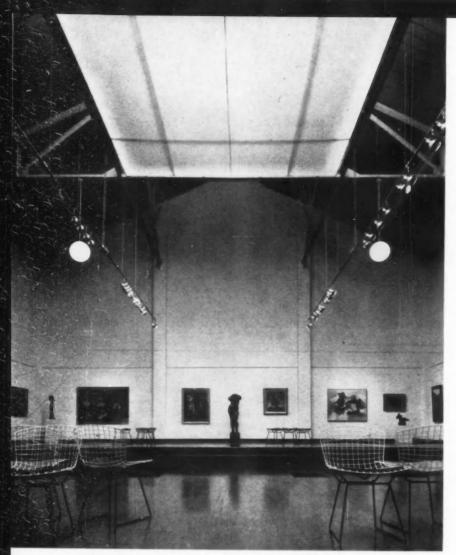
Encouraging as this must seem to those somewhat past 45—as if they had stumbled in their early years upon some now-lost Fountain of Youth—it is not encouraging to the overall picture of architecture. For of all times in the history of architecture, this is a time for continual development, for destruction of stalemate, for get-up-and-go, not sit-back-and-rest. In short, it is a time which needs the vitality, the adventurousness, the idealism of youth. Middle-aged and older architects will provide the balance of experience and sober knowledge. But the continual rejuvenation of the practice of architecture through its traditional fissioning process is of the essence, lest architecture lose the zest and joy, the energy and questing, which are its necessary ingredients.

Of course, there are reasons why there have been fewer young—in the prewar sense—principals in the last 15 years: the war itself, the interrupted educations finished at a later than usual age, early marriage and resulting economic pressures. The steady paycheck has an attraction with which the nip-and-tuck of individual practice cannot compete. "Going out on one's own" today seems more the last resort in the face of job-force reduction than a goal toward which the youthful architect bends every effort as an earlier generation did.

But perhaps the corner has been turned. Whatever the cause—joblessness, resurgent ideals, blossoming of latent adventurousness—there has been a slight rise in the number of young firms formed here in the West. True, they often take the cautious form of new firms whose principals also work for established offices, providing themselves with the cushion of a steady paycheck to forestall the periodic belt-tightening which the pre-war young—in the strict sense of the word—architect knew. The important thing is that these younger men have made the step toward independent practice.

We live in a confusing time—confusing enough without the confusion of seeing "Young Architect" shows made up of middle-aged architects' work. Happily it's a confusion that can be cleared up. It's a young man's job to do. Let's hope there are young men willing to do it.

E.K.T.



Opening exhibition was assembled from California collections by Dr. Herwin Schaefer, curator. Movable partitions and suspended adjustable spotlights permit wide range of installations

### POWER PLANT REMODELLED AS ART GALLERY



Richard Peters, Designer

The conversion of this fine old building. originally designed by John Galen Howard as a power plant for the University of California's Berkeley campus, into an art gallery was a budget job in time and money. The work, sponsored by the University's Committee on Arts and Lectures, had to be done during the summer. The exterior, handsomely proportioned and detailed in brick, was cleaned and its trim painted; its setting was redesigned by the University's landscape office. The interior, with its skylight and unusual height, was ideal for the uncluttered, flexible space required for display of acquisitions and travelling exhibitions. Off-white paint on the brick walls provides a simple and highly sophisticated background; burlap and frosted glass transform the arched openings into special panels.





#### AN ISLAND OF BEAUTY ON A MAIN STREET

#### Harwell Hamilton Harris, Architect

The mall to be built this summer along one block of Shattuck Avenue in Berkeley, Calif., is unusual in several ways. This beautification of a drab section of the city is a \$50,000 giftcomplete with the design for the mall by Texas architect (formerly of California) Harwell Harris-from one of its citizens. John Weston Havens,\* as a memorial to his father. The mall is narrow-30 ft wide-so that it can occupy the center strip of the city's main thoroughfare without cutting down its traffic load capacity. It is unusual in still another way: in a day when the car and its storage is a sacred cow, this mall is replacing with its beauty a block of metered parking spaces provided a few years ago when the tracks for trans-bay trains were removed.

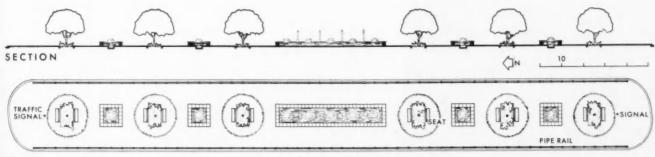
The special feature of the mall is its fountains, which alternate with the magnolia trees along the 300-ft length of the strip. Four of the fountains are square, with domes of water playing over them; at the center of the mall is a pool, 50 ft long and 10 ft wide, in which four jets will alternate with five domes of water. Underwater lights will give vitality to the fountains' night display. Under the trees and facing the fountains will be benches; flower beds will add color. The mall itself is to be of concrete with brown pebble finish, easy to keep clean. The long pool and the smaller pools will be faced with cast stone and lined with glazed tile.

The simple forms used and the low height of the jets and domes keep the mall open for viewing from either side and by both motorists and pedestrians, and sensitively combine the natural elements of water and planting with that inevitable experience of city life-the main traffic artery.





\* Harwell Harris's house for Weston Havens is a well-known landmark in the Berkeley hills and was voted one of the 14 most significant houses in Architectural Record's 1956 survey, "100 Years of Significant Building."



PLAN

SHATTUCK AVENUE



HONOR AWARD: Memorial Coliseum for the Exposition and Recreation Commission of the City of Portland; Skidmore, Owings & Merrill, architects: ". . . simple and direct solution to complicated requirements . . . monumental building with vitality . . . rare example of outstanding design for municipal building"



MERIT AWARD: Metzger Methodist Church, Portland; John Storrs, architect: "... simple handling of forms, details, finishes ... free of usual decoration and derivative forms ... good design within limited budget"



MERIT AWARD: Newport Branch, Equitable Savings & Loan Association, Portland; Lewis Crutcher, architect: ". . . excellent design, integration of landscaping, architecture and interior furnishings, skillful selection of materials . . . visual impact without flamboyant forms"



MERIT AWARD: Residence for Mr. and Mrs. Ted Keller, Oswego; Donald S. Blair, architect: "... festive, holiday atmosphere appropriate to location on lake... fine siting on difficult terrain... good relation of interior spaces and structural form"

#### NINE OREGON BUILDINGS HONORED

#### Oregon Chapter, A. I. A., Awards

The two Oregon Chapters of the American Institute of Architects recently recognized, in separate honors programs, the design excellence of buildings by members within their specific areas. For the Oregon chapter this was the fifth honors program; it drew 44 entries from which four were chosen for awards by an allarchitect jury made up of Bruce Walker, Spokane, Wash.; Professor Marion D. Ross, Eugene, Ore.; and Norman Zimmer, Portland. Richard Ritz was the chapter's chairman for the awards program.



HONOR AWARD: Lane County Courthouse, park and parking garage, Eugene; Wilmsen, Endicott and Unthank, architects: "... exciting architecture in a beautiful setting ... art and architecture complement each other ... good human scale ... spirit of this building should reach into all the community"

#### AS "YEAR'S BEST"

#### Southwest Oregon Chapter, A. I. A., Awards

In its first awards program, the Southeast Oregon chapter honored five buildings, all in the Eugene-Springfield area, for their architectural contribution to their communities. The buildings, selected from the 16 entries submitted, were designed by three firms and had been completed and occupied by December 31, 1960, as required by the program. The jury included architects Victor Steinbrueck, Seattle; Alan Liddle, Tacoma; and Herman Brookman, Portland. Paul Edlund was chapter chairman for the program.



MERIT AWARD: U. S. National Bank of Portland, River Road Branch, Eugene; Wilmsen, Endicott, and Unthank, architects: "good siting, basic materials, simple colors, well related"

MERIT AWARD:
Springfield Public Library, Springfield;
Lutes and Amundson, architects: "... unassuming, with quiet dignity... generous windows in reading room... sculpture and pool... make a pleasant solution"

MERIT AWARD: Eugene Public Library, Eugene; Hamlin and Martin, architects: "... pleasant massing ... use of color ... inviting entry ... dignity indispensable to public building"

MERIT AWARD: Our Savior's Lutheran Church, Eugene; Lutes and Amundson, architects: ". . . skillful use of wood . . . pleasant light through cutouts in gable . . . exudes gaiety while still a church"







#### ASPEN'S NEW BRIDGE REPLACES OLDEST STATE-BUILT SPAN

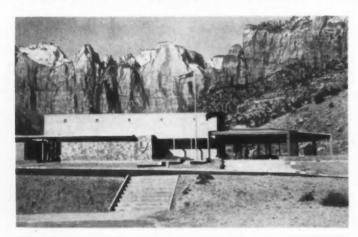




Existing Aspen bridge A new precast prestressed concrete bridge of dynamic design, approved by Colorado's Highway Department and Bureau of Public Roads for construction across Castle Creek in Aspen, will replace a now inadequate iron and wood bridge built in 1891. Designed by the Denver firm of Boduroff & Meheen, consulting engineers, the bridge will be a three-hinged structure with a 240-ft span between supports and a total length of 420 ft across the gulch through which the creek runs. The new bridge will be 40 ft wide—13 ft wider than the old—with a 30-ft roadway flanked on each side by walks five ft wide.

The old bridge, given heavy use when it was new during Pitkin County's lush gold and copper mining days, has one more service to perform: it will provide the supporting structure for construction of the new bridge. When the new bridge has been completed, the old bridge, with its latticework of steel supports and wood decking, will be torn down.

#### MISSION 66: VISITORS' CENTER COMPLETED AT ZION PARK

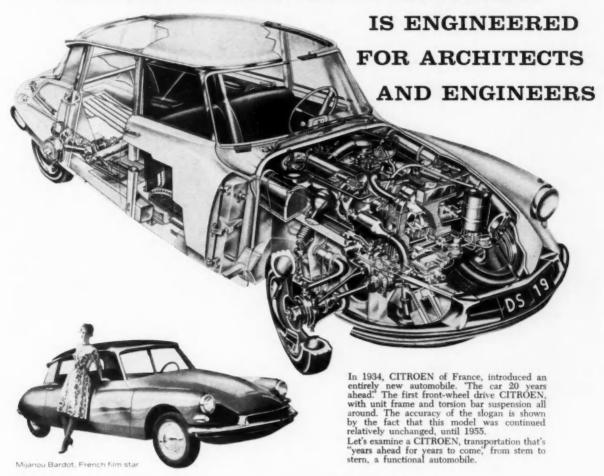




This new Visitors' Center in Zion National Park, recently completed under the Park Service's Mission 66 program, meets the challenge of its majestic surroundings with simple forms and takes its color from the area itself, using local stone in blocks and in large panels as surface finish for its walls. The building provides facilities for park officials (in the office wing, which has its own entrance) and for visitors. Since daytime temperatures in summer are often quite high, the entire building is air conditioned—a pleasant retreat for visitors in uncomfortable heat. An auditorium for lectures and movies about the park, and an exhibition hall for display of suitable materials on the park's origin and history, provide for the Service's educational program. Entrance to the visitors' part of the building is through a steel-and-glass lobby whose octagonal form permits views out to the valley and the Virgin River and to the towering sandstone cliffs and mesas which form a backdrop for the center. Architects were Cannon & Mullen of Salt Lake City, with the Western Office of Design and Construction, National Park Service; Hoffman C. Hughes, structural engineer; Wright, Cowley and Evans, mechanical engineers; Blomquist and Brown, electrical engineers; George W. Renie, general contractor.

32-6 ARCHITECTURAL RECORD May 1961

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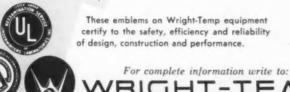


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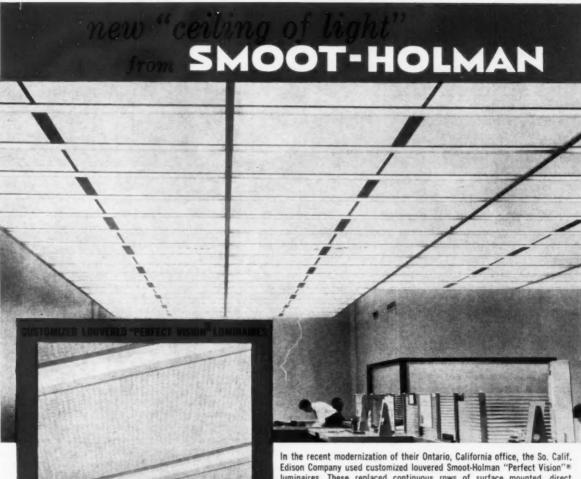
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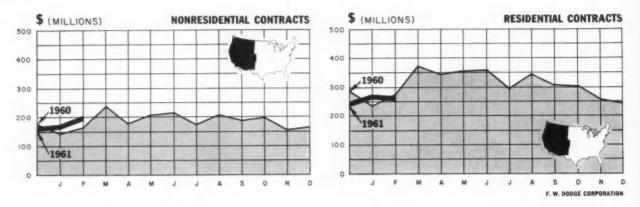
- REMODELING COSTS GREATLY REDUCED NO NEW CEILING REQUIRED. This customized "Perfect Vision" installation, which embodies the use of plastic louvers between the luminous panels, is itself a "ceiling of light." There was no need to rebuild or to drop the ceiling. In the photograph above, the fixtures are suspended from the original ceiling using 18" stem hangers. (This attractive, easy to install and maintain lighting system is also ideal when it is necessary to cover an uneven ceiling, water pipes, beams, or discolorations.)
- IMPROVED LIGHTING. Customized louvered Smoot-Holman "Perfect Vision" luminaires provide comfortable, shadowless illumination. A light level of approximately 150 foot candles is maintained in the office pictured. This installation made a marked improvement in light provided for typing and tasks performed in a vertical plane.
- EASY TO MAINTAIN. In contrast to most luminous ceilings, this installation has lamps at the ceiling line for easy cleaning and relamping.
- BALLASTS LAST LONGER. Ballast overheating had been a problem with the former surface mounted fixtures. These new suspended fixtures assure cool ballast operation.
- PLEASING APPEARANCE. The soft, even lighting completely without glare - is pleasing to the eye and conducive to good work. The plastic louvers spaced between the "PV" lamp panels give unobtrusive relief from the monotony of a conventional type luminous ceiling.
- CREDITS. Mr. James Howard of the So. Calif. Edison Engineering Department, together with Don Rawlinson, lighting consultant in the Ontario office, planned the installation. In Mr. Howard's words, "Without having to rebuild the ceiling, we got improved lighting and a pleasing decorative appearance using customized louvered Perfect Vision® Luminaires."

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#### Western Construction Trends

(For analysis of construction trends nationwide, see page 10)



Construction contracts in the 11 Western states continued to set an impressive pace in February, totaling some \$651 million, and up 14 per cent over a year ago. As in January, the heavy engineering category again sparked the rise with contracts valued at \$193 million, a 41 per cent gain over the February 1960 level. Once more, pipeline contracts led the way, together with notable increases in contracts for streets and highways and electric light and power systems.

In the building category, total contracts also rose above a year ago, thanks to a sharp upsurge in non-residential buildings which more than offset a mild decline in the housing sector.

Contracts for non-residential buildings in the West in February scored a 20 per cent increase over the like 1960 month. Commercial, educational, and recreational building contracts all rose more than 40 per cent over a year ago, while industrial buildings were up 22 per cent and religious buildings were up four per cent. Only hospitals fell below the comparable year-earlier level, with contracts down five per cent in dollar volume.

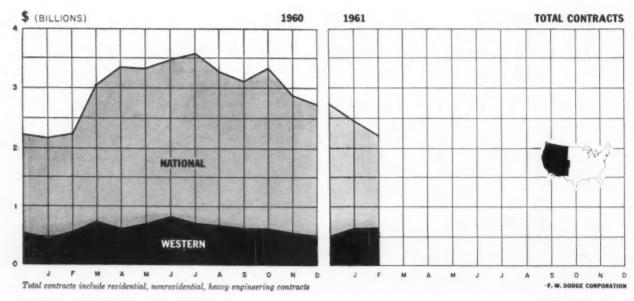
Western residential contracts in February were down four per cent, with most of the decline occurring in the one- and two-family house category. Contracts for apartment buildings, on the other hand, rose seven per cent above a year ago.

The high level of contract awards in both January and February sent the cumulative two-month total to the highest level on record. Some \$1.3 billion worth of contracts were let in this period compared with \$1.0 bil-

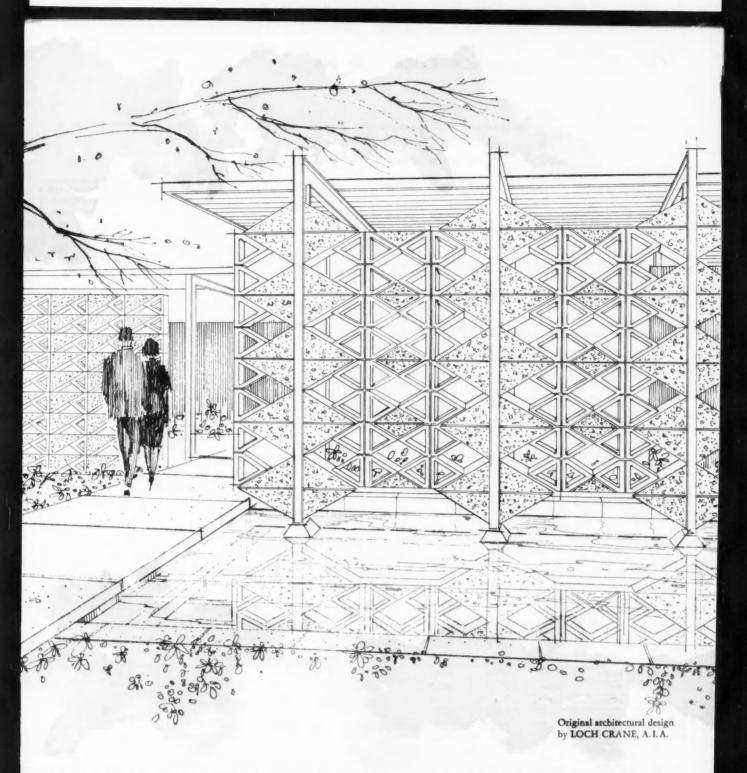
lion in 1960. This represented a gain of 24 per cent in total contracts. All major categories were up: nonresidential building showing a gain of 19 per cent, residential building up four per cent, and heavy engineering construction up a dramatic 74 per cent

In contrast to the West, total construction contracts in the nation during the first two months of this year were up only six per cent. (The February total, in fact, was slightly below the same month last year.) Heavy engineering contracts were strong nationwide during this period, rising 23 per cent: non-residential contracts were up eight per cent, while residential contracts fell four per cent below a year ago.

EDWIN W. MAGEE JR., Economist F. W. Dodge Corporation A McGraw-Hill Company



32-10 ARCHITECTURAL RECORD May 1961



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#### Western Construction Cost Indexes

Presented by Clyde Shute, Director of Statistical Policy, Construction News Div., F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assoc. Inc.

Labor and Materials: U.S. average 1926-1929=100 DENVER

#### LOS ANGELES

			APTS., HOTELS OFFICE BLDGS.	COMMERC		RESIDI	ENTIAL	APTS., HOTELS OFFICE BLDGS.	COMMERC	
	RESID	ENTIAL	Brick and	Brick and	Brick and			Brick and	Brick and	Brick and
PERIOD	Brick	Frame	Concrete	Concrete	Steel	Brick	Frame	Concrete	Concrete	Steel
1939	112.0	112.1	116.1	117.8	117.0	97.2	93.6	103.7	104.9	106.2
1948	217.8	218.1	202.7	207.0	206.7	215.9	216.5	205.8	210.0	209.8
1949	215.8	212.9	211.0	215.3	214.6	207.0	203.2	209.9	212.4	210.2
1950	230.0	228.2	218.8	221.3	221.2	224.1	222.8	217.4	219.0	217.5
1951	249.7	246.6	236.5	237.2	238.9	241.0	239.5	235.1	236.9	236.6
1952	253.6	249.4	243.4	245.1	245.6	243.8	241.7	239.8	242.6	241.5
1953	259.6	254.0	255.0	260.9	258.1	250.5	246.5	252.3	258.2	255.3
1954	258.9	252.0	259.1	266.2	263.4	251.0	245.3	257.7	265.7	261.8
1955	266.6	260.9	266.3	273.2	271.7	262.1	256.6	269.3	278.0	273.9
1956	274.9	269.3	275.8	282.3	285.1	272.6	266.7	282.9	292.9	289.3
1957	281.3	272.2	285.4	293.1	296.4	275.4	267.9	292.8	303.3	303.7
1958	282.2	272.0	288.1	295.9	298.8	277.9	286.6	302.6	314.5	316.4
1959	288.7	278.9	295.2	302.9	304.8	288.7	279.1	314.9	326.9	327.6
1960	292.2	282.7	301.3	309.0	310.0	299.8	287.7	329.1	342.7	339.6
Dec. 1960	290.4	281.6	300.7	308.2	308.5	299.5	286.6	332.9	347.5	343.2
Jan. 1961	290.2	282.5	301.0	308.1	308.5	298.2	284.9	332.7	347.4	342.6
Feb. 1961	290.2	282.5	301.0	308.1	308.5	298.2	284.9	332.7	347.4	342.6
		%	Increase over 19	39			96	Increase over 193	19	
Feb. 1961	159.1	152.0	159.2	161.5	163.7	206.8	204.4	206.1	231.2	222.6

#### SAN FRANCISCO

#### SEATTLE

Feb. 1961	184.6	183.7	187.0	191.4	194.6	183.6	177.2	179.9	183.5	190.6
		%	Increase over	1939			96 1	ncrease over 1	939	
Feb. 1961	300.6	281.7	337.0	355.2	343.2	296.1	268.1	333.7	355.3	344.9
Jan. 1961	300.6	281.7	337.0	355.2	343.2	296.1	268.1	333.7	355.3	344.9
Dec. 1960	302.0	283.6	337.1	355.3	343.5	293.3	265.9	328.3	349.1	339.8
1960	305.5	288.9	335.3	352.2	342.3	298.9	272.4	330.5	351.2	342.9
1959	299.2	284.4	322.7	338.1	330.1	291.5	267.8	318.8	336.9	331.8
1958	289.8	274.9	311.5	326.7	320.8	279.9	256.4	306.0	324.0	320.8
1957	286.3	274.4	302.9	315.2	310.7	275.6	254.0	298.2	313.1	311.2
1956	279.0	270.0	288.9	298.6	295.8	273.5	254.0	288.5	303.4	299.0
1955	268.0	259.0	275.0	284.4	279.6	260.6	243.3	273.7	287.3	282.4
1954	257.4	249.2	264.1	272.5	267.2	253.3	236.1	266.6	279.1	274.0
1953	255.2	257.2	256.6	261.0	259.7	254.8	239.0	262.7	273.6	269.5
1952	250.2	245.0	245.6	248.7	249.6	254.3	239.8	258.8	267.7	263.
1951	245.2	240.4	239.6	243.1	243.1	245.1	232.7	247.7	255.8	251.0
1950	227.0	223.1	222.4	224.5	222.6	224.1	213.6	227.1	234.5	230.3
1949	213.0	207.1	214.0	219.8	216.1	214.2	203.9	220.7	228.5	225.
1948	218.9	216.6	208.3	214.7	211.1	216.3	211.4	211.5	216.6	216.
1939	105.6	99.3	117.4	121.9	116.5	104.4	96.7	119.2	125.3	118.7

Cost comparisons, as percentage differences, for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110 index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110 - 95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110 - 95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

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#### Hawaii Legislature Sees Capitol Design

The final design for Hawaii's new capitol building has been presented to the Legislature and is being considered by the two houses. A decision in regard to it could come any time; word at press time was that although no decision had been made yet, the design had created a very favorable impression among the law-makers.

The building is designed around a central court which is open on two sides and at the roof. The two legislative chambers are at ground floor level and open off the court. The building is surrounded by a colonnade and rises from a reflecting pool. John Carl Warnecke & Associates of San Francisco are architects for it.

Although the site for the capitol as designed is the park-like area of the present capitol, the Iolani Palace, there have been many late-hour suggestions that the capitol be located elsewhere. Proposals have included a site in windward Oahu, a site on the island of Maui, Fort Armstrong in Honolulu, and the old Chinatown section of Honolulu. All would have the advantage of larger area, but none would have what the present site has: a downtown location in the Islands' principal city, and the opportunity to make a cohesive governmental group.

The Hawaii chapter, A.I.A., has recommended that an "impartial, concentrated, comparative study of the various available sites be made in order to dispel all doubts as to the superiority of the present site or indicate the advantages of some alternate site." The A.I.A. chapter said that "new data developed by recent planning has generated legitimate doubts as to the overall excellence of the present downtown site" which was chosen 15 years ago. The decision was reaffirmed in 1959 when the construction of the capitol became a lively topic.

The new capitol will cost an estimated \$14.5 million, some \$9 million less than the estimate advanced at the time the preliminary design was released. Major changes which have affected the cost have not affected the design. One was a more realistic estimate of amount of space needed for certain agencies; another was a change in the number of parking stalls to be provided beneath the

Capitol building. Still another—the suggestion that Hotel Street be closed and converted into a pedestrian mall—has been left open.



Fred Bassetti, partner in the Seattle architectural firm of Bassetti & Morse, is shown putting the final touches on a Flexagon skyscraper. Bassetti is the originator of FLEXAGONS—a construction card toy

#### Western Architects Honored For School Designs

Western architectural firms received 15 of the 24 design citations awarded in the 1961 School Building Architectural Exhibit of the American Association of School Administrators. Panels and models of the cited schools and some 225 other schools were displayed at the regional conference in San Francisco, February 25-28.

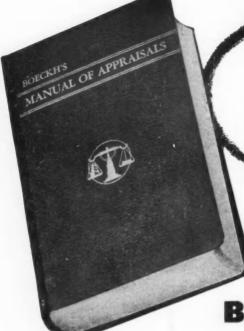
Architectural firms honored include Blurock, Ellerbroek and Associates, Corona Del Mar, Calif.; Pierre Claeyssens, Robert Trask Cox, Roy W. Donley & Associates, William H. Harrison, and Lee B. Kline, Inc., all of Los Angeles; Ernest Kump, Palo Alto and Kress & Winston, San Jose; Falk and Booth and Johnson, Poole & Storm, both of San Francisco; Preston M. Geren, Ft. Worth, Texas; Golemon & Rolfe and Caudill, Rowlett & Scott, both of Houston; Johnston & Smith, Payette, Idaho; and Robert Price, Tacoma, Wash.

#### Denver To Hold Competition For Housing

An unprecedented competition for selection of an architect for Denver's first 250 units of public housing is to be held by the city's Housing Authority. The local chapter of the American Institute of Architects will be asked to assist in programming and judging, but final selection will be made by the Authority.

continued on page 32-20





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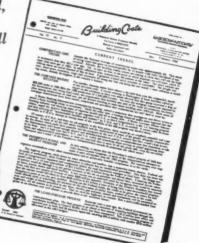
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#### Denver . . .

The Authority has signed a \$67,-500 loan contract with the Federal government for planning of 500 units of dispersed housing. Planning for the first 250 units is to proceed immediately.

(Denver has announced, at press time, the cancellation of the competition.)

#### S. F. Renewal Project Starts

The first building in San Francisco's Western Addition renewal project is under construction—nearly thirteen years after the area was declared blighted. The building is a \$400,000 medical office building, designed by Hatch, White, Hermann & Steinau, San Francisco architects, for a group of 10 physicians from Mt. Zion hospital.

Other buildings will be under way soon. Eichler Homes Inc. expects to begin construction this month on a group of apartment buildings. The International Longshoremen's Redevelopment Corporation will start its cooperative apartment buildings in July.

Developers, architects and landscape architects for projects in the Western Addition have conferred on overall design of the area ever since land purchase awards were made last year in an unusual venture, the Western Addition Architectural Advisory Council. The Council provided a means of exchanging ideas on relation between areas and effecting a unifying landscape treatment.

#### Construction Starts on New Campus

The first building on the University of California's new campus at San Diego is scheduled to get under way this month, and will be completed by the summer of 1963. The building is a seven-story structure for the College of Science and Engineering.

The building itself will cost about \$3,750,000; complete with furnishing, equipment and landscaping, its estimated cost will be about \$6 million. Risley & Gould of Los Angeles are architects.

The new campus is on Torrey Pines Mesa, south of La Jolla. Its official name will be University of California at San Diego.



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#### Waste Space

#### Palace of Sham

Thirty years ago the Fox Theater on San Francisco's upper Market Street was the biggest excitement for the largest number of people: 5000 could attend a movie in a setting that outdid, almost, anything that Hollywood could dream up for its "spectaculars" and that was, appropriately enough, just as artificial as Hollywood's backdrops. The Fox was big, it was shiny, it was gaudy. But its day was brief, for a building.

Ever since World War II was over, the theater has been losing money. It has just about five times too many seats for today. And today the Fox's overwhelming magnificence-for all its imitation, it was a building in the grand manner-no longer startles; no one goes to see the gilt and crystal, the paintings and tapestries that seemed to make a museum of what was only the anteroom to the theater's raison d'être. In short, the Fox has outlived its usefulness as a movie theater. What had cost \$5 million to build in 1929 was being offered for sale at \$1,115,000 in 1959; in 1961 it is still for sale. If it doesn't sell now, its owners say, it is slated for demolition.

But the building may be saved, after all. The city needs a convention hall, desperately. Anyone who has attended convention meetings in the Civic Auditorium needs no further persuasion of that. And for that much space the price isn't bad. But how to finance such a buy?

Where there's a will, there is, of course, a way. It looks now as if the financing would come from a new tax-a tax on hotel rooms. Justice may be blind, but she obviously isn't crazy. Convention-goers not only are the people who would make the most use of the convention hall; they're the ones who use hotel rooms the most.

#### This Automated World

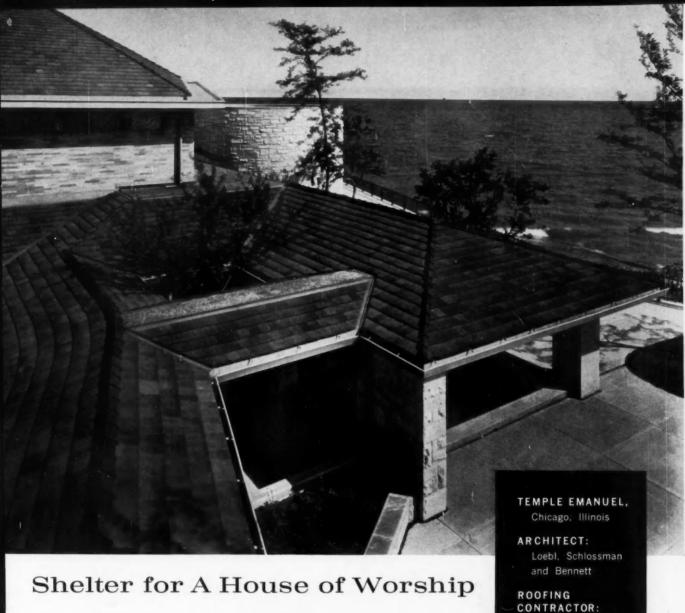
First it was the printed Christmas card in the typed envelope, its message untouched by human hand; then it was the automatic shift, saving wear and tear on the left foot; then the bank account, no longer seen by human eyes in this marvelous age of the machine. It was all right to make elevators automatic, but the latest news along this line is just too much.

The elevators in Los Angeles' new Hall of Administration have a sort of automatic conversation-one-sided, it's true, but that's the way with some machines. When you press the button for "up" or "down" and the elevator doors open to admit you, a male voice from nowhere booms at you: "Step back in the elevator." What do you dare do but step back? It helps only a little to have the next voice you hear speak in feminine tones: "This car is going up (or down)," because it's the principle of the thing. If they eliminate pretty elevator operators, they might at least leave you to your memories.

All this is bad enough, but when it comes to automatic transition from here to there on the street, you know the machine has taken over. Wright was right. We should have made it our slave, and since we didn't, we have become the machine's slaves. Tacoma has installed a moving sidewalk along one hilly block in its central business district, and now no one needs to exercise his leg muscles. Sure, you could ride up the hill; it's the principle!

To cap it all, you can now transmit graphically, without TV cameras and special lights, a blueprint or an original drawing from an office to a job site in another part of town. A microfilm of the drawings is transmitted by a system made by Nord Photocopy & Electronics Corp.; any part of the film can be enlarged up to 60 times.

Looks like the best thing is to forget the principle. Who needs an elevator or a sidewalk? Video will do it all. Of course, that's another machine. But aren't machines marvelous? E.K.T.



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#### SF Produce District Gets New Site

The on-again, off-again deal with the U.S. government for the surplus-property site at Islais Creek, south of San Francisco, as the new location for the city's produce market, is definitely on again, this time presumably finally. This means that the present produce district, site of the Golden Gateway redevelopment project, will be cleared as proposed, and construction of the Gateway buildings can begin without further delay.

The produce market relocation has been a sore subject for years. Since Golden Gateway's development as a full-fledged project, it has been an even hotter topic. The Islais Creek site, a former Marine Corps Supply Depot, was proposed several years ago, but the produce men wanted the city to buy it for them. When the city refused, the produce men tried to get the land at a reduced price. Finally, last month, they had to agree to pay the full price, \$2,160,000, asked by the government.

A new market has been planned for them by Welton Becket & Associates, architects, under the sponsorship of developer Del Webb Construction Company.

#### **Washington Offers Graduate Degree**

The University of Washington has established a new program leading to the advanced degree of Master of Architecture in the College of Architecture and Urban Planning. The M.A. curriculum requires advanced studies in psychology, sociology, engineering, geology and history, as well as in architecture.

# Whatever the SPACE or TERRAIN, there's RAIN BIRD Lawn-Sprinkling Equipment to Meet the Need



No. 161 Surface Hea Full and Square or Part Circle



No. 117 1/2" Pop-t Full and Square or Part Circle



Sure-Quick 1/2" Lawn Valv No. 22-RC



With Rain Bird, you are assured of top quality, all brass sprinkling equipment designed for greatest efficiency and economy.

Rain Bird Sprinklers are particularly adaptable for hillside irrigation. On level ground, Rain Bird Sure-Spray Surface and Pop-Up Heads afford dependable irrigation. Fully adjustable for gallonage and coverage.

Rain Bird Sure-Quick Turf Valves eliminate hazard of surface obstruction and are used with Rain Bird Sprinklers for large area coverage. Available in many types and sizes.

Performance Charts and Catalogue sent on request. Also, courtesy service to architects in sprinkling system layout.

NATIONAL RAIN BIRD SALES & ENGINEERING CORP. 627 N. San Gabriel Ave., Azusa, Calif.

#### Calendar of Western Events

- MAY 12-JUNE 18: Photographic exhibition of the work of Pier Luigi Nervi, sponsored by the Associated Arts Foundation, San Francisco Museum of Art, Civic Center, San Francisco
- MAY 16-20: Pacific Coast Electrical Association, Sheraton-Palace Hotel, San Francisco
- MAY 18: Lecture, "The Design of Interiors," by James M. Meares, architect (Welton Becket & Associates) at University of California Extension, Moore Hall, Los Angeles
- MAY 25-JUNE 4: Annual Home Show, Sports Arena, Los Angeles
- MAY 28-JUNE 1: Special Libraries Association, national meeting. Sheraton-Palace Hotel. San Francisco
- JUNE 6-8: Pacific Coast Builders Annual Conference, Sheraton-Palace Hotel, San Francisco
- JUNE 18-24: International Design Conference: "Man: Problem Solver," Aspen, Colorado
- JULY 18-20: Western Plant Maintenance & Engineering Show and Conference, Pan Pacific Auditorium, Los Angeles
- JULY 27-30: American Institute of Building Design, regional meeting, Jack Tar Hotel, San Francisco
- AUGUST 22-25: Western Electronic Show and Convention, Cow Palace, Sheraton-Palace Hotel, San Francisco
- SEPTEMBER 10-15: International Industrial Conference, sponsored by National Industrial Conference Board and Stanford Research Institute, Mark Hopkins, Fairmont, San Francisco

#### WESTERN SECTION

#### Index To Advertising

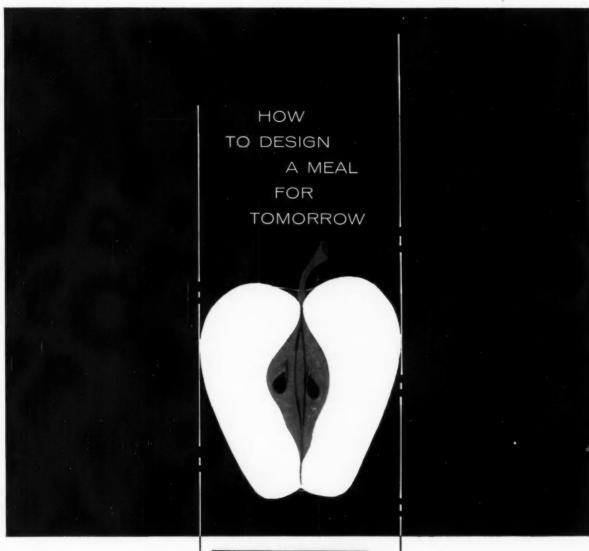
Manufacturers' Pre-Filed Catalogs of the firms listed below are available in the 1961 Sweet's Catalog Files as follows:

n Architectural File (green)
ic Industrial Construction (blue)
le Light Construction File (yellow)

Page numbers of manufacturers' advertising elsewhere in this issue shown in italics

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Western advertising offices: LOS ANGELES, Wettstein, Nowell & Johnson, Inc., 672 S. Lafayette Park Pl.; PORTLAND, Wettstein, Nowell & Johnson, Inc., 921 S. W. Washington St.; SAN FRANCISCO, Wettstein, Nowell & Johnson, Inc., 417 Market St.



Automatic feeding is a practical answer to the problem of providing modern food service for factories, schools, institutions. This new 8-page booklet tells about CANTEEN® FOOD SERVICE.

It describes the equipment needed for various locations, lists specifications, shows typical locations, gives suggested layouts. Send for your free copy today.



AUTOMATIC CANTEEN COMPANY OF AMERICA Merchandise Mart Plaza, Chicago 54, Illinois Gentlemen:

- Please send me ( ) copies of your booklet "How to Design a Food Service for Today . . . and Tomorrow."
- I would be interested in meeting a Canteen food facilities specialist. Have him call at his earliest opportunity.

Name			
Company			
Street			
City	Zone	State	

# From Barber-Colman Mastermind for

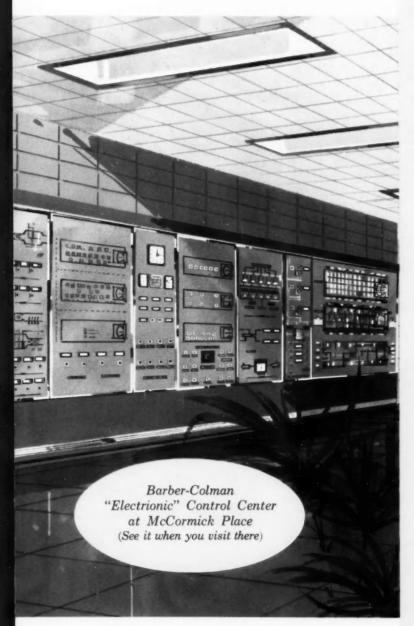


"Electrionic" control centers place management and operation of electrical and mechanical services in the hands of a responsible supervisor, eliminating endless running from point to point to check and correct temperatures and other variables.

recording of the system's performance.

A Selectronic Control Center, incorporating an automatic slide projector, screen, and a set of master operating controls, is a compact control console. It utilizes only a fraction of the area required by other types.

# McCormick Place



Ask for new brochure F-8031-1 which describes the benefits of centralized remote control centers and explains the unique advantages of the Barber-Colman "Electrionic" system.



## Complete centralized "Electrionic" control for 36 million cubic foot "oasis"

You have to think big when you think about McCormick Place, Chicago's new \$35-million exhibition hall. It covers almost ten acres, has an exhibit area the size of six football fields, contains a 5000-seat theater.

A Barber-Colman "Electrionic" Climate Control Center is the brain for the electrical nerve system of this building. It senses temperatures at more than 145 locations . . . reports them at the speed of light . . . corrects for the slightest deviation before you can detect any change . . . creates an oasis of comfort for up to 30,000 people at one time.

The 36-foot-long control panel monitors the entire air conditioning system—fans, dampers, pumps, motors, valves, and other equipment including Barber-Colman high-velocity air distribution control units. It maintains a continuous record of boiler fuel and water consumption.

A part of the panel is given over to lighting control. Here the operator can switch lights on and off anywhere in the building, as well as control their intensity and color to set the mood for any event.

Remote control centers for commercial air conditioning, heating, and ventilating were originated by Barber-Colman. Today, after many years of proven application, the Electrionic Control Center is the most logical and efficient method of controlling a building's electrical and mechanical functions. There is no building too large or too small to benefit from its economy and reliability.

For complete information, consult your Barber-Colman Automatic Controls field office, or write: Barber-Colman Company, 1300 Rock Street, Rockford, Illinois.

#### BARBER-COLMAN

... where originality works for you





# Just Published! New manual on monolithic reinforced concrete construction

...prepared for architects, engineers and contractors designing and building with poured-in-place concrete joist construction.

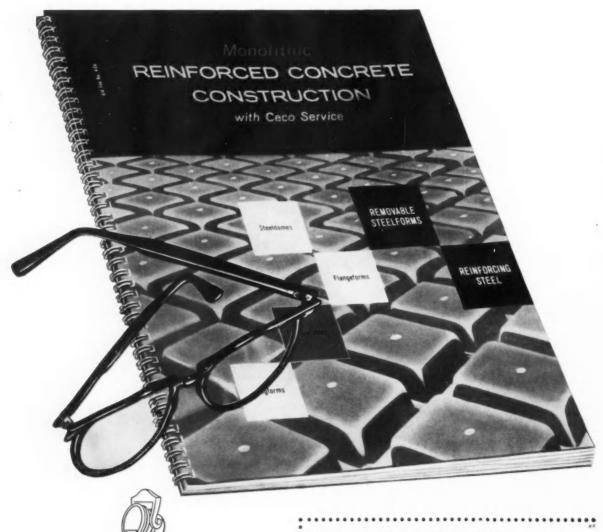
... more than 190 photos, isometric details, cross section drawings and tables. Sixty-eight pages, wire-bound.

...compares different types of steelforms...steeldomes, flangeforms, adjustables and longforms.

...includes size data, concrete tables, installation details, erection procedures and job pictures.

...four pages of unretouched photographs show imaginative ceiling effects created by architects, with Ceco steeldome construction.

... presents information on underfloor electrification, reinforcing steel and accessories.



IN CONSTRUCTION PRODUCTS
CECO ENGINEERING MAKES THE BIG DIFFERENCE
steelforms/concrete reinforcing/steel joists/curtainwalls,
windows, screens, doors/steel buildings/roofing
products/metal lath

For your copy of Manual 4002-C, mail this coupon to: CECO STEEL PRODUCTS CORPORATION 5601 West 26th St., Chicago 50, III.

name title ditre d

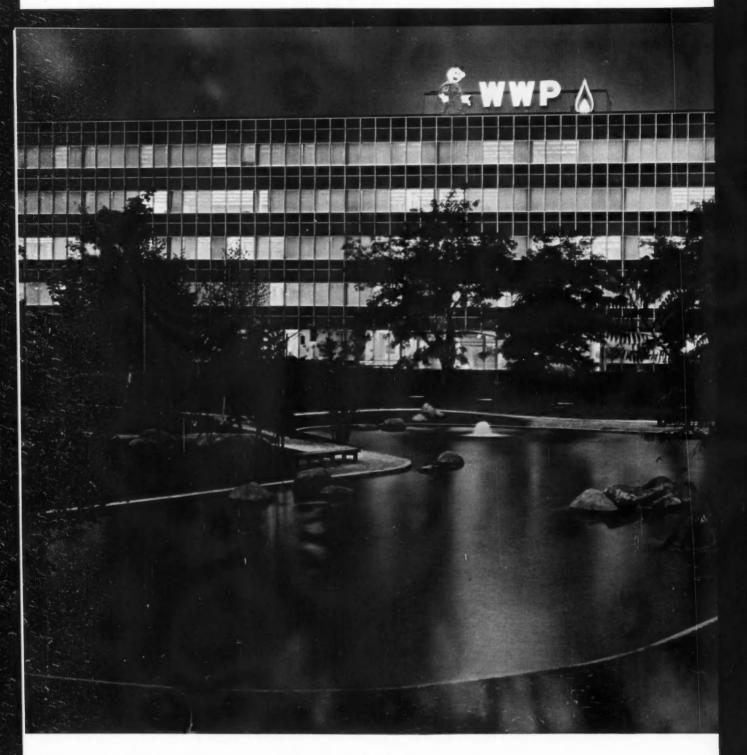
# FUNCTIONAL COLOR AND CONTROLLED VISION IN COMMERCIAL STRUCTURES



In many of today's most distinguished commercial uildings, glass by A-SG is serving to unite function with aesthetics. No other material meets such a variety of practical objectives, yet allows the architect equal freedom of visual expression. On this and the following pages, you will find a sampling of applications—from exterior facings to interior partitions—which suggest the design potentials in glass by









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HELPS CREATE A
GRACIOUS PUBLIC
PERSONALITY •
THE AWARD-WINNING
HEADQUARTERS
OF THE
WASHINGTON WATER POWER COMPANY

#### THREE NOTABLE BUILDINGS . . . THREE CREATIVE SOLUTIONS TO PROBLEMS OF VISION CONTROL THREE FUNCTIONAL GLASSES BY A-SG



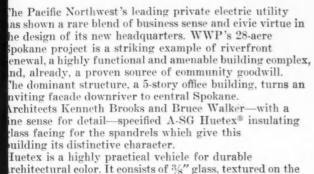
NUWELD® MESH polished, wired glass by A-SG puts a sleek facade on Gilroy's Men's Shop in Seattle's new LOGAN BUILDING. Nuweld Mesh was specified for its fine optical quality, fire retarding properties, and the clean, modern lines of its wired pattern. Architects: Bittman & Sanders.



HUEWHITE® by A-SG is used extensively for partitions in New York's CORNING GLASS BUILDING. This translucent white glass transmits softly diffused light in true color, and insures privacy. The finely engraved, non-directional pattern makes an elegant, distinctive surface, yet is easy to clean. Architects: Harrison & Abramovitz & Abbe. Interior Designers: Designs for Business, Inc.



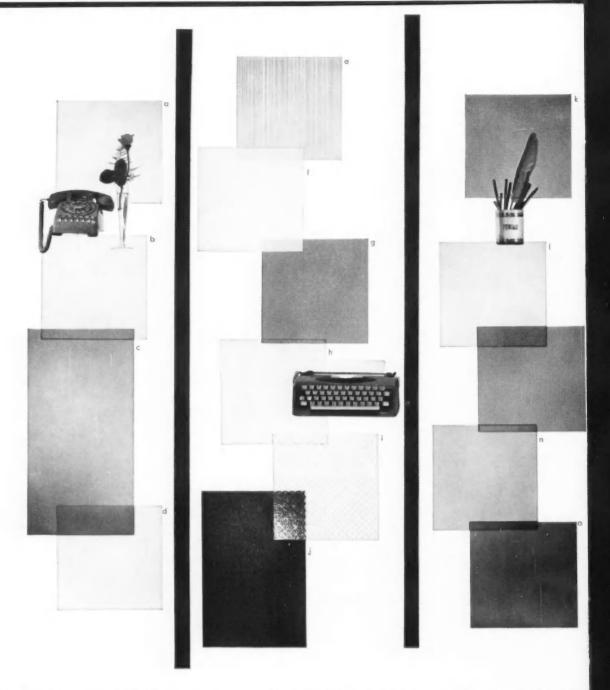
STEEL GRAY PLATE GLASS by A-SG provides glare-free daylighting in the new BOEING SCIENTIFIC RESEARCH LABORATORIES on Washington's Duwamish River. Its greater opacity from outside contributes to the homogeneous detailing of the exterior, Building Design Collaborators: Austin Associates; Walter Dorwin Teague Associates.



veathering side, and with permanently bonded layers of

e matched to the architect's sample.

eramic enamel and aluminum on the reverse. Colors may



THE BROAD, FUNCTIONAL SPECTRUM OF GLASS BY AMERICAN-SAINT GOBAIN SHEET GLASS for all basic glazing requirements. Fire-polished surfaces afford the best optical quality available outside of polished plate. Clear glass in a wide range of thicknesses. A graduated series of gray-tinted glasses for glare control. Laminated sheet for high safety requirements. Shown above; a) LUSTRAGLASS®

b) LUSTRACRYSTAL®c) LUSTRAGRAY d) SUPRATEST<sup>®</sup>. ROLLED GLASS in the broadest range of transparencies, patterns, finishes, colors and thicknesses. Special characteristics available: heat-absorbing, glare-reducing, insulating, fire-retarding, etc. Fabrications include doors; resistance heaters; plane, bent and corrugated shapes. Shown above: e) RANDEX® f) HUEWHITE

- g) aklo\* h) beadex\*
- i) designed satinol® j) huetex.

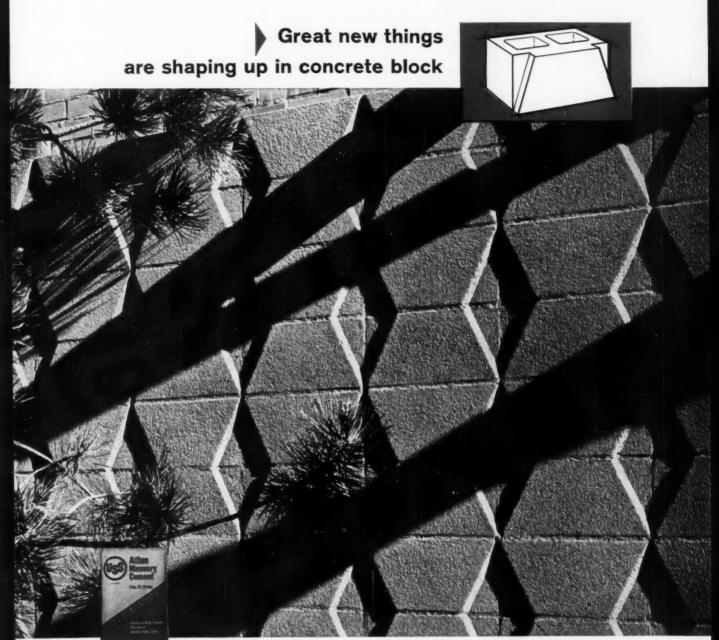
PLATE GLASS of exceptional parallelism, flatness and high polish. Colored plate is available it k) smoked topaz, l) steel gray m) heat-absorbing, n) amber o) sapphire blue, as well a water-white, light gray and pink Also available: heavy plate i standard 54e", 76e", ½", ¾" and 1 thicknesses.

For detailed information, see the following Sweet's files: Architectural: 7a/Am...16d/Am...3e/Amc. Industrial Construction: 6a/Am...3b/Amc. Light Construction: 2d/Am. Plant Engineering: 10a/Am.

For other information, call the American-Sain Gobain district office nearest you...or write; Dept AR-12, 625 Madison Ave., New York 22, N.Y.

\*Reg. T.M.-Lic. by Corning Glass War!





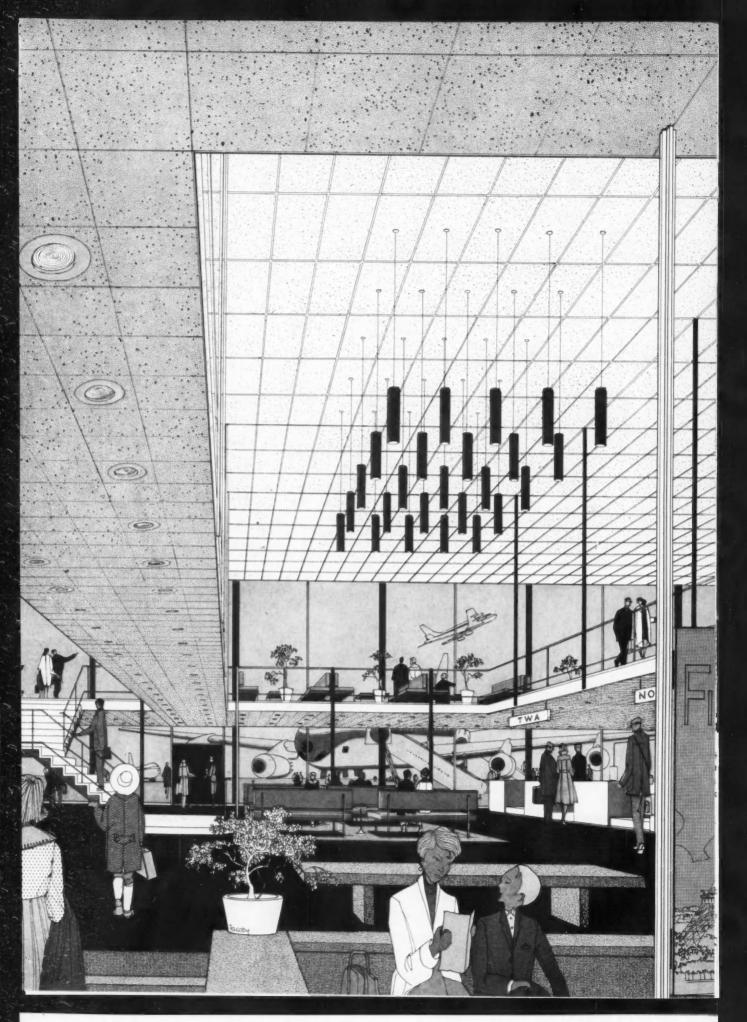
## Atlas Masonry Cement provides the right mortar

for laying up new types of concrete masonry such as "Shadowal" block. The face of this 8 x 8 x 16 unit is recessed at an angle on each corner and is used to create a variety of geometric designs.

Whether standard units or the newer types of block are used, ATLAS MASONRY CEMENT continues to be the preferred cement for mortar. That's because it produces a smooth, workable mix...saves labor... cuts waste...helps assure a good bond...gives weathertight joints that are uniform in color. Complies with rigid ASTM and Federal Specifications. For information on masonry cement, write: Universal Atlas, Dept. M, **Universal Atlas Cement** 100 Park Avenue, New York 17, N. Y.

"USS" and "Atlas" are registered trademarks

**Division of United States Steel** 



# How Armstrong Acoustical Fire Guard can save you up to two months' construction time

The large ceiling of the airline terminal on the left features the new Armstrong Acoustical Fire Guard *lay-in* system. This revolutionary ceiling system combines, for the first time, the economy and fast installation advantages of an exposed grid system with the protection of a time-design-rated ceiling.

The smaller lounge ceiling which you see just below the mezzanine is of Acoustical Fire Guard *tile*. Millions of feet of this tile have been installed since it was first introduced two years ago.

In either form, Armstrong Acoustical Fire Guard can save up to two months' construction time. Here's why.

Since Armstrong Acoustical Fire Guard is fully approved by the Underwriters' Laboratories, Inc., there's no need to install intermediate protection between the acoustical ceiling and the steel structural members.

Installation is a completely dry operation that does not require an extensive cleanup.

There are none of the other inconveniences and delays of a wet operation. Carpenters, painters, and flooring contractors can be on the job at the same time as the acoustical contractor. This alone can save weeks.

The Armstrong Acoustical Fire Guard lay-in units are available in both the Classic and Fissured designs. There are two nominal sizes:  $24'' \times 24'' \times 56''$  and  $24'' \times 48'' \times 56''$ .

For information about either Acoustical Fire Guard tile or lay-in units, call your Armstrong Acoustical Contractor (he's in the Yellow Pages under "Acoustical Ceilings") or your nearest Armstrong District Office. Or write to Armstrong Cork Company, 4205 Rock Street, Lancaster, Pennsylvania.



First in fire-retardant acoustical ceilings

OFFICE OF THE YEAR AWARDS FOR 1960 HONOR SIX BUILDINGS



Office of the Year (up to 300 employes): Atlantic City Electric Co., Atlantic City

# Planning a laundry for a

HOSPITAL? HOTEL? COMMERCIAL LAUNDRY? MOTEL? INDUSTRY? SCHOOL? INSTITUTION?

## Then here's <u>time-saving</u> help

TROY offers you complete laundry planning service to help you design the most efficient laundry in the least floor space for your client. TROY will prepare floor plans and specifications to your instructions. Or send for complimentary 100-page data book containing machine dimensions, suggested floor plans and other helpful information printed on separate, loose-leaf pages. Just attach coupon below to your business letterhead.

TROY LAUNDRY MACHINERY

Division of American Machine and Metals, Inc. Dept. AR-561, EAST MOLINE, ILLINOIS



Six buildings have been selected as the leading office buildings erected in 1960 by the editors of Office Man-

agement and American Business Magazine. Photographs of the two top winners are shown on this page. The Union Carbide Corporation

Building was designed by the New York office of Skidmore, Owings &

Merrill; the Atlantic City Electric Company Building, by Frank Grad

year, honor "American business's

& Sons, Newark, New Jersey. The awards, now in their 11th

Office of the Year (300 or more employes): Union Carbide Corp., N. Y.

successful quest for functional esthetically pleasing space to house its administrative operations." The winning buildings are divided into two categories: those designed for 300 or more employes; and those designed for up to 300 employes.

In addition to the two top winners, four Awards of Merit were made. continued on page 72



American Machine and Metals. In

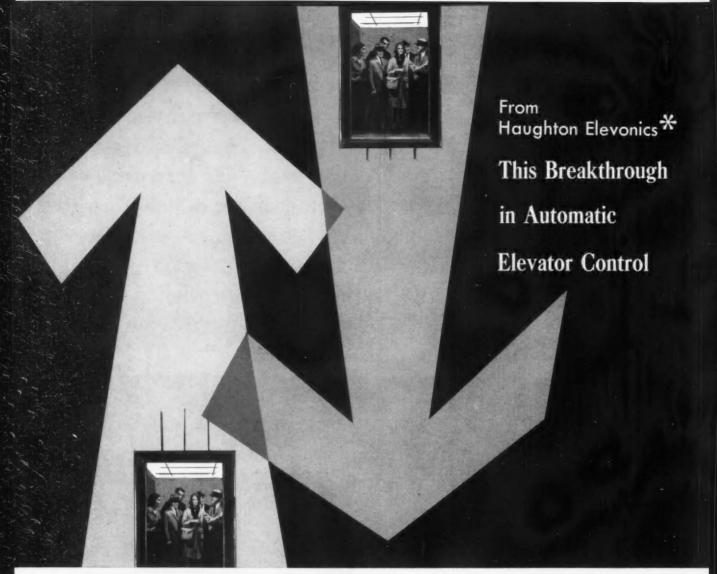
<ul> <li>□ Please send me are</li> <li>□ Or both.</li> </ul>	rhitect's data sheets.
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FIRM	
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	STATE

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Best way to provide service openings in any wall or ceiling: Specify Milcor Steel Access Doors. You have five styles and thirteen popular sizes from which to select. (Special sizes also furnished.) Each style offers maximum suitability for a particular type of surface. The new Style B door, for example, has a recessed panel with established plaster grounds so it can be covered by acoustical plaster. It thus contributes sound control and preserves the attractive texture of the surrounding plaster area. All styles are easy to install and operate. See Sweet's section 16j/In. Or write for catalog 210.



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BALTIMORE, BUFFALO, CHICAGO, CINCINNATI, CLEVELAND, DETROIT, KANSAS CITY, LOS ANGELES, MILWAUKEE, NEW ORLEANS, NEW YORK, ST. LOUIS
MILSI



# DYNAFLITE

Now every trip can be incredibly fast and smooth . . . for unparalleled service

Imagine floor-to-floor travel so smooth you can barely sense acceleration and deceleration . . . and faster than engineers thought possible a few years ago. It's a practical reality today, with Haughton Dynaflite . . . bold new concept of operatorless elevator control for new buildings and old.

The Dynaflite System is fully automatic . . . thoroughly reliable. Every run is as precisely controlled as

those that preceded it, and those that will follow.

Dynaflite is but one result of the magic of Elevonics\*... which, today, is shaping the new technology in vertical transportation. Get all the facts on Dynaflite, as well as Haughton's complete design, modernization and maintenance capabilities. The Haughton representative in your area will gladly consult with you—no obligation, of course. Or, write today.



#### **Haughton Elevator Company**

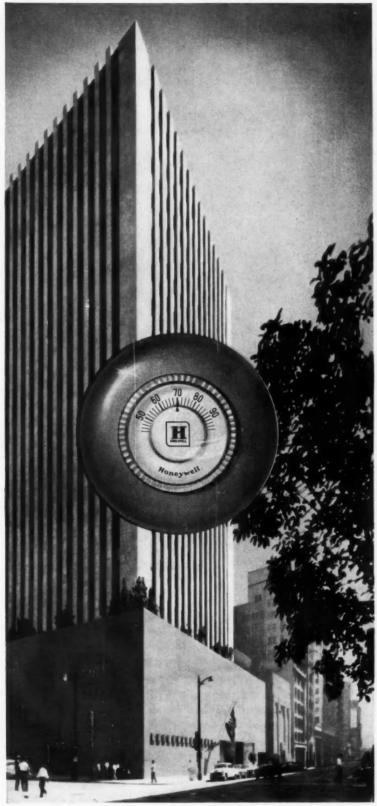
DIVISION of TOLEDO SCALE CORPORATION . Toledo 9, Ohio

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UNITED CALIFORNIA BANK, LOS ANGELES, CALIFORNIA
Architect: Claude Bellman and Associates, 7421 Beverly Blvd., Los Angeles, California
Mechanical Contractor: Air Conditioning Co., Inc., 6265 San Fernando Road, Glendale, California

Only the thermostat on the wall senses temperature the way people do

The famous Honeywell Round is so sensitive, it reacts to changes in temperature before people do—so accurate it calls for just the right amount of heating or cooling needed to maintain the temperature selected. Conveniently located on the wall, it is also easier to read and adjust when necessary.

Whatever your temperature control needs, Honeywell can satisfy them best, because *only* Honeywell manufactures all three types of control systems—pneumatic, electric and electronic. For complete information, call your nearest Honeywell office. Or write Honeywell, Minneapolis 8, Minnesota.

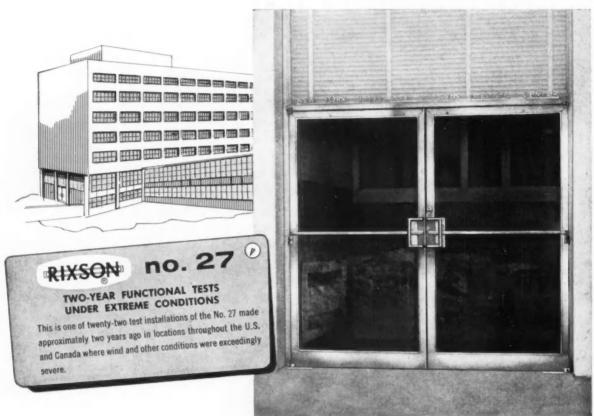
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Hist in Control

HONEYWELL INTERNATIONAL
Sales and service offices in all principal cities of the world. Manufacturing in the United States, United Kingdom, Canada, Netherlands, Germany, France, Japan,

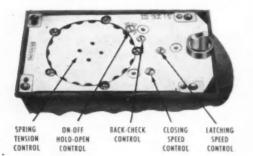
# No. 27 CLOSER solves door control problem at New York Univ. Medical Center in two-year test installation

"The first door control to stop glass breakage caused by strong East River winds..."
says P. W. Barton, CONSTRUCTION COORDINATOR



Skidmore, Owings and Merrill, Architects

## A COMPLETELY NEW DOOR CLOSER DESIGN no. 27 offset hung no. 28 center hung



These New York University Medical Center south entrance doors are exposed to powerful East River winds which blow from *both directions*. Before the No. 27 closers were installed there was frequent glass breakage and closer damage.

The back-check of the No. 27 closers, locally adjusted for firm resistance, together with the positive dead stop, now keep the opening action of these doors under constant control. The closing action of the doors is under dependable hydraulic check with closing and latching speeds each independently adjusted to cope with the wind conditions.

Complete literature and details on the No. 27 offset hung and No. 28 center hung closers will be mailed on request.

THE OSCAR C. RIXSON COMPANY

9100 west belmont ave. franklin park, illinois CANADIAN PLANT: 43 Racine Road (Rexdale P.O.) Toronto, Ont.



There's no better endorsement of a product or service than to have it repeatedly specified by satisfied architects and owners.

In 1926, the renowned architect, Cass Gilbert, designed a new Home Office Building for the New York Life Insurance Co. and specified Permatite windows "by General Bronze." Now, 35 years later, the New York Life plans a new, modern curtain wall building to house its ever expanding operations and, once again, "General Bronze" has been specified. This time by the architects, Carson & Lundin.

Reflecting the modern trend in architectural design, the new building will feature a glass and aluminum grid curtain wall system set in 21 ft. bays between full height stone piers. Horizontal mullions of dark gray anodized finish give emphasis to the staggered vertical mullions which are finished in natural color anodized aluminum. All details were designed to permit setting the glass in premoulded channels with pressure glazing stops. Aluminum track guides for window cleaning equipment are designed into the jambs.

As the country's foremost producer of curtain walls, windows and architectural metalwork in either aluminum, bronze or stainless steel, General Bronze is anxious and ready to serve you, too. Call us in on your next job. Our Catalogs are filed in Sweet's.

GENERAL BRONZE

ORPORATION . GARDEN CITY, N.Y. SALES OFFICE: 100 PARK AVE., NEW YORK 17, N.Y.

PERMATITE DIVISION—Windows, Curtain Walls, Architectural Metal Work.
ALWINTITE DIVISION—Stock-size Aluminum Windows and Doors.
BRACH MFG. CO. DIVISION—Radio, Television and Electronic Equipment.
STEEL WELDMENTS, INC. DIVISION—Custom fabrication in Steel and Iron.
GB ELECTRONICS DIVISION—Telemetry and Tracking Antenna Systems.



## Required Reading



-from Le Corbusier 1910-1960

#### Collected Works of Corbu

LE CORBUSIER 1910-1960. Edited by Boesiger & Girsberger. George Wittenborn, Inc., 1018 Madison Ave., New York 21, 329 pp., illus. \$15.

This compendium of Le Corbusier's work over the last 50 years covers buildings from his very early house at La Chaux-de-Fonds, built when he was 18 years old, to the Dominican convent called La Tourette, finished last year. After a brief biographical introduction, the material is divided into five main categories: private houses; large buildings, including offices, apartments and public buildings; museums, exhibitions and religious buildings; painting, sculpture and tapestries; and town planning. Except for the urban planning section, the editors have concentrated mostly on completed buildings.

The editors have also concentrated on showing the material graphically, with photographs, plans and sketches from the hand of Le Corbusier. Captions accompanying the illustrations are sometimes disappointingly short, but always adequate; in any case, the decision to sacrifice text space in order to accommodate a great many illustrations seems a wise one. The only genuine objection to the presentation is that plans and sketches have sometimes been reduced in size past the point where legends can be read without a magnifying glass.

All text and captions are printed in French, English and German.

It seems unlikely that one will find another single volume containing a more comprehensive collection of Corbu's work.

#### Architectural Journals Indexed

THE ARCHITECTURAL INDEX FOR 1960. Compiled and edited by Ervin J. Bell. The Architectural Index, 517 Bridgeway, Sausalito, Calif. 61 pp. \$5.

For the 11th year, The Architectural Index has issued its very helpful coverage of the major American magazines in the field: Arts and Architecture, Architectural Forum, Architecture, Architectural Forum, Architectural Record, House & Home, Interiors, Progressive Architecture, and the Journal of the American Institute of Architects. Entries are categorized by building types, by architects and by location.

#### Iberian Baroque

BAROQUE IN SPAIN AND PORTUGAL. By James Lees-Milne. B. T. Batsford, Ltd., London; distributed in U.S.A. by the Macmillan Co., 60 Fifth Ave., New York 11. 224 pp., illus. \$7.

As a sequel to his earlier Baroque in Italy, the author here explores the rather different Baroque of Spain

and Portugal—different from Italy's, and different from each other's. In a relatively limited space, the author has had little chance to do more than introduce the reader to the varieties of Baroque architecture in Iberia: the section on Portugal, on which there have been very few recent writings in English, is on this ground the most helpful. He has concentrated on the architecture of the period, but has not ignored the fine arts, nor the cultural, religious and political background.

#### Architectural Anthology

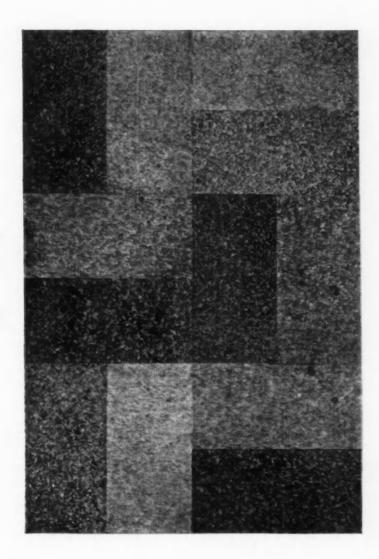
ARCHITECTURE IN AMERICA: A BATTLE OF STYLES. Edited by William A. Coles and Henry Hope Reed Jr. Appleton-Century-Crofts, Inc., 35 W. 52nd St., New York 1. 472 pp., illus. \$2.40 (paperbound).

Intended primarily for college writing courses, this collection of brief excerpts from architectural writings perhaps too casually "presupposes no prior knowledge of architectural history." The unprepared liberal arts student is likely to be confused by an unannotated body of opinion ranging in time from Vitruvius to Albert Bush-Brown and in mood from Louis Sullivan to Le Corbusier. Some interesting by-ways of architectural criticism are recalled, but the general continued on page 56

REGULAR CORK

KENTILE CUSTOM CORK

250,000 footsteps can't be wrong!



#### Proof that new Kentile Custom Cork has the toughest floor finish ever!

This unretouched photo shows a section of test flooring using both regular cork and new Kentile® Custom Cork tiles.

It was taken after  $5\frac{1}{2}$  months of use and 250,000 footsteps . . . without any maintenance whatsoever!

And, as you can see, only new Kentile Custom Cork tiles kept their original luster and shading. An exclusive finish of polyurethane resin resists scuffings, dirt and grease. Cleans easy as vinyl!

Kentile Custom Cork has all the resilience, quiet and beauty that have made cork tile so popular. Ideal for all fine installations.

SPECIFICATIONS: Sizes: 6" x 12", 12" x 12", Thickness: 3/16". Shades: Light random, medium random, dark random.

## KENTILE FLOORS

Visit the Kentile Showrooms in these cities: New York, Philadelphia, Cleveland, Atlanta, Kansas City, Torrance, Calif.

# New Anemostat Architectural Straight Line Diffusers at



# Cornell University

Here is the new Anemostat ASL Architectural Straight Line Air Diffuser installed in the Willard Straight Hall of Cornell University at Ithaca, New York. This new ASL unit for ceiling or wall application combines the superior air diffusion characteristics of all Anemostat air diffusers with the esthetic appearance of a slender unit with symmetrical vanes. The ASL diffusers are easy to install; no screws, nuts or bolts are needed.

Write for Anemostat Catalog ASL-70



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OF AMERICA

10 East 39th Street, New York 16, N. Y. Representatives in Principal Cities



ARCHITECT:
M. V. Perrault, the College of Architecture,
Cornell University

ENGINEER: Leigh St. John Associates, Binghamton, New York

A. Friederich and Sons Company, Rochester, New York

AC1279



Project:
John R. Vereen Residence
Coconut Grove, Miami, Florida
Architect:
Robert B. Browne, Miami, Florid.
Associate:
George Dead, Missol, Florid.

## Bostik Architectural Coatings add Dimension, Protection, Color to Florida Award Winner!

BOSTIK Coatings are bringing new and unique architectural expressions to buildings of all kinds.

On the Florida award-winner, for example, BOSTIK Coatings were used on the folded plate concrete roof and supporting Y-shaped columns because they offered a decidedly different approach to color, protection and dimension. A single application will preserve the architectural beauty against sun, rain, wind and sand for a long time to come.

BOSTIK Coatings provide these singular properties by combining aggregate and pigmented polyurethane binder. They can be sprayed on poured, pre-cast, or prestressed concrete, concrete block, brick or masonry; asbestos board, pressed wood or overlay plywood.

Texture can be dramatically pronounced or just a bit about smooth.

Franchised, factory-trained specialists are ready, now, to help you use BOSTIK Architectural Coatings to bring a fresh dimension to your design.

Have complete information ready for your next project, send for details, today.

# Bostik

ARCHITECTURAL COATING

Another polyurethane coating advance from B. B. Chemical Company.

Subsidiary of United Shoe Machinery Corporation, 784 Memorial Drive, Cambridge, Mass.

\*BOSTIK is the trade mark for B. B. Chemical Company Coatings.



SoundLock® (the only structural metal lay-in acoustical ceiling) and no sound transmission problems.

SoundLock's unique design offers all the advantages of a metal ceiling—with an excellent noise reduction coefficient. Sealed in steel or aluminum, glass-fibre-filled honeycombs trap and kill noise to end annoying sound transmission.

Lightweight SoundLock is easy to install on a suspended grid system. There's no waiting for the building to dry out. Once installed, maintenance-free panels







#### allow easy access to the plenum chamber. These firesafe panels have a textured baked-enamel finish. Built to last the life of the building, SoundLock usually costs less than conventional metal ceilings. You'll find fire-safe SoundLock in New York's IBM building (designed by Eero Saarinen), St. John's Hospital in Springfield, III., Ohio's Heidelberg College,

#### Franchised Distributors of SoundLock Products

ALABAMA-Birmingham-Acousti Engineering Co. of Alabama, Inc.

ARIZONA-Phoenix-Arizona Acoustics

CALIFORNIA-Los Angeles-The Harold E. Shugart Co., Inc. (Glendale)

San Diego-Hackett Ceiling & Lighting, Inc.

San Francisco-F. K. Pinney Co.

DISTRICT OF COLUMBIA-Washington-The Hampshire Corp. (Bladensburg, Md.)

FLORIDA—Jacksonville—Acousti Engineering Co. of Florida Branches in Fort Myers Villas, Orlando, Tallahassee and Tampa

Miami-Rowell-Van Atta Acoustics, Inc. Branch in Fort Lauderdale

West Palm Beach-Benson Acoustical & Insulation, Inc.

GEORGIA-Atlanta-Acousti Engineering Co.

ILLINOIS-Chicago-Fisher, Albright & Masters

Chicago-Anning-Johnson Co. (Melrose Park)

INDIANA - Evansville - General Insulation Co.

Indianapolis-Anning-Johnson Co.

10WA-Des Moines-Allied Construction Services, Inc. Branches in Davenport and Waterloo

KANSAS-Wichita-Henges Co., Inc.

KENTUCKY-Louisville-Pochel-Chowning Co.

MAINE-Auburn-The Bader Co., Inc.

MARYLAND-Baltimore-The Hampshire Corp.

MASSACHUSETTS-Boston-Pitcher & Co., Inc. (Cambridge)

Pittsfield-Acoustical Ceilings, Inc.

Worcester-Pitcher & Co., Inc.

MICHIGAN - Detroit - Nichols Co.

Grand Rapids-Leggette-Michaels Co.

MINNESOTA - Minneapolis - Hauenstein & Burmeister, Inc.

Minneapolis-Insulation Sales Co.

MISSOURI - Kansas City - Henges Co., Inc.

St. Louis-Henges Co., Inc.

NEW HAMPSHIRE-Concord-The Bader Co., Inc.

NEW JERSEY-Elizabeth-Jacobson & Co., Inc.

NEW YORK-Buffalo-Buffalo Acoustical Corp.

New York-Jacobson & Co., Inc. Branch in Westbury (L.I.) NORTH CAROLINA-Charlotte-Associate Structures. Inc.

OHIO-Cincinnati-Cincinnati Floor Co. Cleveland-Anning-Johnson Co.

OREGON-Portland-Johnson Acoustical & Supply Co.

PENNSYLVANIA-Harrisburg-Jacobson & Co., Inc.

Philadelphia-Jacobson & Co., Inc.

Pittsburgh-Standard Floor Co RHODE ISLAND-East Providence-Pitcher & Co., Inc.

SOUTH CAROLINA-Charleston-Associate Structures, Inc.

Greenville-Associate Structures, Inc.

TENNESSEE-Chattanooga-Wallace Tile, Inc.

VERMONT-Burlington-The Bader Co., Inc.

VIRGINIA-Richmond-The Hampshire Corp. Branches in Norfolk and Roanoke

WASHINGTON-Seattle-Noise Control of Seattle, Inc.

WEST VIRGINIA-Charleston-The Hampshire Corp. (St. Albans)

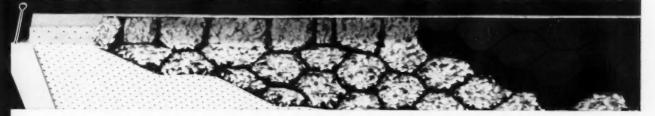
WISCONSIN-Milwaukee-Building Service, Inc.

CANADA-Montreal-Dominion Sound Equipments Ltd.

Branches in Calgary, Edmonton, Halifax, Hamilton, London, North Bay (Ont.), Ottawa, Regina, St. John, Saskatoon, Toronto, Vancouver and Winnipeg.

and many other new and remodeled buildings across the country.

For more information about SoundLock, check Sweet's Catalog, call the franchised distributor near you, or write the pioneer in sound transmission control . . . The Kemp Corporation, Dept. C-5, 124 South Woodward, Birmingham, Michigan.



# Years of Heavy Foot Traffic NON-SLIP Wet or Dry



## ALUNDUM TERRAZZO provides permanent walking safety — year after year!

In 1932, when the new United States Post Office in Worcester, Massachusetts, was built, floors of Norton ALUNDUM Terrazzo were installed to provide walking safety for the countless thousands who were to use its main floor areas.

Today, after 29 years of the heaviest kind of foot traffic, these same floors of Norton ALUNDUM Terrazzo are still non-slip, wet or dry, and retain their initial beauty. Even in the vestibules where traffic is concentrated, the floor shows only the faintest trace of wear.

For floors, ramps and stairways in all types of buildings, both public and commercial, Norton ALUNDUM Aggregate in the proper proportion furnishes a terrazzo surface which is permanently non-slip and exceptionally resistant to wear.

Full specifications in Norton Pages in SWEET'S or on request from us or from the National Terrazzo and Mosaic Association, Washington, D. C.



By specifying Norton ALUN-DUM Terrazzo for the approaches to the newly built United States Post Office in St. Petersburg, Florida, the architect provided the public with permanent walking safety in all kinds of weather.

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ALUNDUM AGGREGATE for Terrazzo and Cement . ALUNDUM STAIR and FLOOR TILE ALUNDUM and CRYSTOLON Non-slip Abrasives

#### Required Reading

continued from page 50

Architectural . . .

architectural reader will have seen much of the material elsewhere.

#### The Archaeologist's Rome

THE GOLDEN HOUSE OF NERO. By Axel Boëthius. The University of Michigan Press, Ann Arbor. 195 pp., illus. \$15.

Despite the title, only one of the book's four chapters devotes itself to the Golden House; the others are titled "From Earliest Roman Villages to Etruscan Urbanization." "The Hellenized Italic Town and Its Legacy to Imperial Rome," and "The Domestic Architecture of the Imperial Age and Its Importance for Medieval Town Building." Relying largely on information disinterred by archaeologists (of whom he is one), the author definitely does not address himself to the beginning, or even the intermediate, student. Advanced students will have, in addition to the content, the pleasure of a handsomely designed and printed volume.

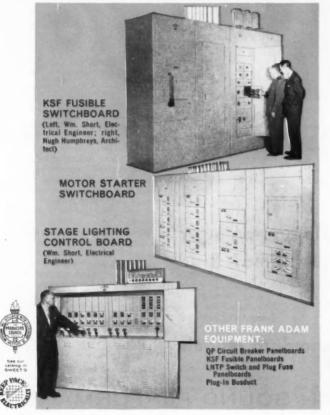
#### Two Approaches to Gothic

THE GOTHIC. Sources and Interpretations through Eight Centuries. By Paul Frankl. Princeton University Press, Princeton, N.J. 916 pp., plus illus. \$17.50.

A work of staggering scope and scholarship, this survey of documents and criticism of Gothic buildings will, unfortunately but undoubtedly, leave the casually interested reader feeling, to paraphrase one little girl's comment on another book, that "it tells me more about Gothic than I want to know." Historians of architectural criticism as well as of the Gothic will find it more rewarding.

MONT-SAINT-MICHEL AND CHARTRES. By Henry Adams; introduction by continued on page 64

# **Electrical Equipment by** FRANK ADAM. Eli Whitney Junior High School Tulsa, Oklahoma



RCHITECT: Hugh R. Humphreys, AIA, Tulsa.

L ENGINEER: Wm. E. Short, Tulsa.

Cougler Electric Co., Tulsa

Combining optimum efficiency, safety, dependability and economy here, in a building that will be up-to-date ten years from now, is equipment for secondary power distribution and control at its very best. The Eli Whitney school adds still another to thousands of testimonials to the quality, engineering, craftsmanship and performance of Frank Adam equip-

Every school, factory, office building-or any type of structure for that matterpresents its own electrical problems. To help in finding the most satisfactory answers to every requirement, the Frank Adam organization offers more than 70 years of know-how and a complete line of equipment unsurpassed in versatility.

For all your projects, no matter how large, how complex, or how restricted the budget, consult your Frank Adam experienced engineering representative. He is as near as your telephone.



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# Another NEW General Electric Ballast Development . . . THIS CAPACITOR IS DESIGNED TO PREVENT RUPTURE!



New Thermal Link deep within capacitor roll protects against excessive internal temperatures which may cause rupture of the capacitor case. Also, a new bushing assembly acts as an effective barrier to seal against bushing seepage. Result: longer ballast life.

# NEW GENERAL ELECTRIC

Bonus Line

Fluorescent Ballasts

## DESIGNED TO ...

- eliminate hazards to people and property
- eliminate need for individual ballast fusing
- eliminate leakage
- provide longer ballast life
- be interchangeable with standard models

WITH NO SACRIFICE IN SOUND PERFORMANCE!



General Electric proudly announces new Bonus Line fluorescent ballasts, designed to offer you-for the first time-full protection against the hazards sometimes associated with ballast end-of-life failure.

This new ballast design, available in most popular ratings for indoor commercial and industrial applications, features two outstanding new General Electric developments that make it safer than standard ballast designs:

1. A new Thermal Protector has been developed and tested for several years in General Electric laboratories. The Thermal Protector de-energizes the ballast before it reaches the critical internal temperatures at end of life that cause ballast filling compound to soften or melt. This non-resetting Thermal Protector completely eliminates any need for individual ballast fusing.

2. A newly developed, two-way improved General Electric capacitor features a unique Thermal Link designed to overcome capacitor rupture and leakage which sometimes occur at end of life. Also, the new capacitor has a new bushing assembly which contributes to longer ballast life.

New Bonus Line ballasts are dimensionally, thermally, and electrically interchangeable with standard General Electric ballasts of same ratings. They meet-and, in certain respects, exceed-all appropriate industry standards. And you get all these ballast added values without sacrifice in sound performance. General Electric ballasts are still the quietest ballasts available!

In short, new G-E Bonus Line ballasts give you added years of safe, reliable, quiet performance. They're engineered to eliminate leakage, smoke even the more violent conditions which sometimes occur at end of normal ballast life.

Your General Electric ballast sales engineer will be proud to give you full information on new G-E Bonus Line ballasts for your lighting applications. Contact your nearby G-E sales office or write for Bulletin GEA-6912 to Section 403-01, General Electric Co., Danville, Illinois.

#### HOW TO SPECIFY

To obtain the protection advantages of the new General Electric Bonus Line ballast features, specify "Ballasts shall be protected with non-resetting thermal protectors in the core and coil assembly and in the capacitor.'

Progress Is Our Most Important Product







## Here's How VOIDED Concrete Slabs Help You Cut Overall Building Costs

In schools, office buildings, and general construction, voids formed with Sonovoid Fibre Tubes displace low-working concrete in slabs and decks. Weight is thus reduced, as well as the amount of concrete and reinforcing steel required. This load reduction permits the design of longer spans, and results in additional savings on foundations and supporting members.

Then too, voided slabs can be flat – with the voids forming essentially a flush beam-and-joist system within the slab. This eliminates the need for dropped ceilings, reduces cubage, and permits

direct application of paint, plaster, or tile. And, thanks to dead air space, voided slabs provide improved acoustical and thermal insulation.

Sonoco Sonovoid Fibre Tubes are designed to form voids in concrete slabs, decks, and precast members. They are low in cost, lightweight and easily handled, and save time, labor, materials and money while increasing design flexibility.

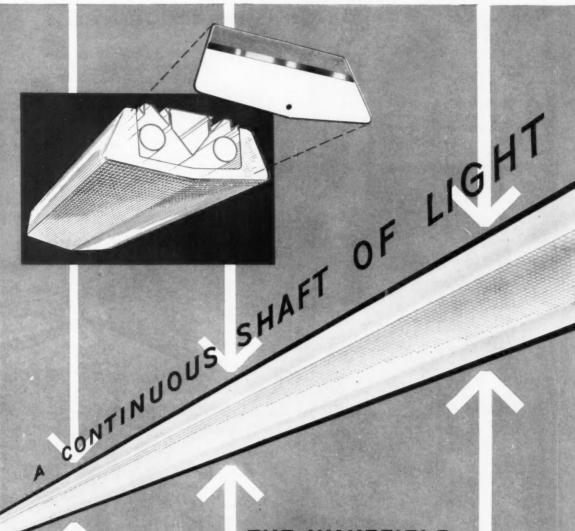
Available 2.25" to 36.9" O.D., in standard 18' lengths or as required.

See our catalog in Sweet's

For full information, slab design tables, and prices, write

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Construction Products 493

SONOCO PRODUCTS COMPANY, MARTSVILLE, S. C. • La Puente. Calif. • Fremont, Calif. • Montciair, N. J. • Akron, Indiana. • Longview, Texas. • Atlanta, Ga. • Ravenna, Ohio • MEXICO: Mexico City • CANADA: Brantford, Ont.



# PHOTOMETRIC

When mounted in luminous rows, Wakefield Photometrics provide a continuous shaft of light; there is no opaque metal between units to create distracting contrasts. Available in 4' and 8' units with injection molded 4' refractors of acrylic or styrene (actual overall depth less than 4"), Photometrics are finely engineered luminaires with off-the-shelf availability and price. At leading distributors in the U. S. and Canada.

WAKEFIELD

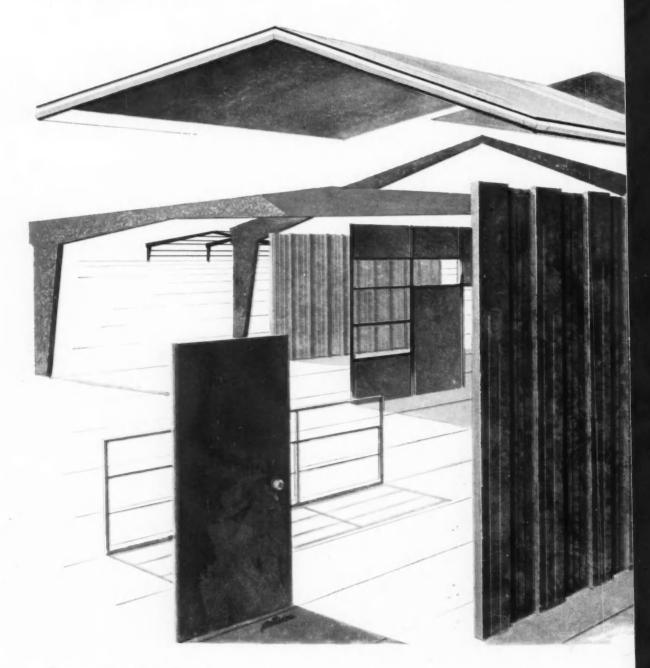
THE WAKEFIELD COMPANY — VERMILION, OHIO WAKEFIELD SOUTHWEST CO.—OKLAHOMA CITY, OKLA. WAKEFIELD LIGHTING LIMITED — LONDON, ONTARIO

#### **BUILDINGS UNPRECEDENTED**

In actual practice, architectural necessities evolve out of economic, technical and social forces. And so—indeed—does the "packaged" building.

Today there are packaged buildings sans architecture—packaged buildings in imitation of architecture—and (we like to believe) packaged buildings in the service of architecture. This year, we at Butler have brought the pre-engineered building to an unprecedented level of perfection . . . to a stage where it becomes a space-module system of astonishing versatility and utility.

Butler's new and expanded line offers over 400 basic building designs, in many sizes. Six separate structural systems. Seven different design loads. A metal roof deck that can carry a twenty year guarantee. A range of compatible, factory-applied colors. Three wall systems, two of them factory-insulated. Integral fenestration for each wall system. Handsome new trim. Factory-fabricated closure and transition members. A veritable battery of pre-engineered, inter-related, inter-designed components for the resourceful architect.



FOR OR AGAINST...

you cannot now

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BUILDING SYSTEM



THE BUTLER BUILDING SYSTEM
...as a new opportunity for architects

As the craftsman disappears, and labor takes a different view of work . . . as the financing, ownership, and even promotion and sale of structures change . . . as fundamental concepts of the functions and useful life of buildings alter, the role of the architect loses its classic outline. Today he needs the economy and efficiency of pre-engineering. He needs the quality control that factory fabrication guarantees. He needs simplification and even identification of responsibility at the job site. Sometimes, too, he can find financial resources

useful. All these advantages the Butler Building System and the new kind of contractor that has evolved with it—are prepared to offer. Why not adopt an aggressive skepticism to this system? Call your nearby Butler Builder. Ask him to show you the new color film, "Facing the Public"—a document of the work of 31 architects using the Butler Building System.

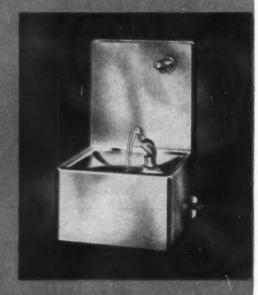
Or write direct to Butler Manufacturing Company, 7427 East 13th Street, Kansas City 26, Mo., and we will arrange a showing in your offices.

# Now...a complete NEW line of Halsey Taylor fixtures

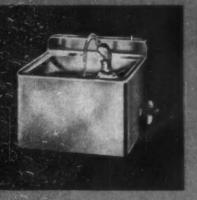


You are looking at the very newest in face-mounted wall fountains... exciting new designs dramatically created in stainless steel by Halsey Taylor. They're just some of the many fountains and coolers in the complete new Halsey Taylor line!

The Halsey W. Taylor Co. Warren, Ohio



# in glamorous stainless steel



In addition to these, you can obtain recess and semi-recess wall types, coolers for all purposes, class-room fixtures and wall brackets...all in lustrous stainless steel.

And you also get all the extra Halsey Taylor features, such as dependable performance, healthsafety, maintenance-free service.

#### Fountains illustrated:

Top View 13" back Centre 13" back At right 6" back

Write for latest catalog, or see Sweet's or the Yellow Pages



THIS MARK OF LEADERSHIP IDENTIFIES THE MOST COMPLETE LINE OF MODERN DRINKING FIXTURES



#### Required Reading

continued from page 56

Two Approaches . . .

Ernest Samuels. New American Library, 501 Madison Ave., New York 22. 388 pp., illus. 75¢ (paperbound).

Adams' guide for "tourists" who, as he says, prefer not dates but poetry, receives more testimony, if it needs it, of its place as a standard by this widely distributed "Mentor Classic" paperbound.

#### Technical Books

SPECIFICATIONS. By H. Griffith Edwards, D. Van Nostrand Company, Inc., 120 Alexander St., Princeton, N.J. 372 pp., illus. \$8.

The second edition, considerably revised, of an introduction to specifications writing. The early chapters present the general aspects of specifying, with emphasis on clarity and organization. Later chapters take up specific points relating to the various building trades, and entirely new material deals with asphalt paving and lawns and planting.

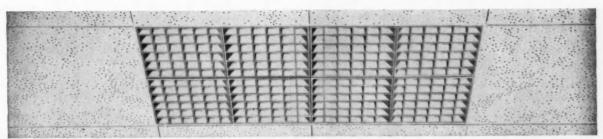
FLUORESCENT LIGHTING MANUAL. By Charles L. Amick. McGraw-Hill Book Company, 327 W. 41st St., New York 36. 416 pp., illus. \$12.50.

The third edition, with revisions, of a guide to the design, installation, maintenance and repair of fluorescent lighting systems.

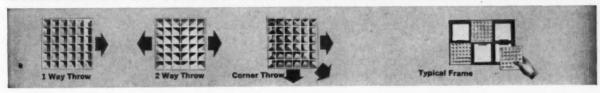
OSCAR FABER'S REINFORCED CONCRETE.
Rewritten by John Faber and Frank
Mead. D. Van Nostrand Company,
Inc., 120 Alexander St., Princeton,
N.J. 532 pp., illus. \$14.75.

The second edition of this British book for consulting engineers and advanced students has been revised and expanded in the areas, among others, of slabs, retaining walls, roads, shell-concrete roofs, and prestressed concrete.

BOILERS: Types, Characteristics and Functions. By Carl D. Shields. F. W. Dodge Corporation, 119 W. 40th St., New York 18, 559 pp., illus. \$15.



### LEADERS GO TO CARNES FOR THE NEWEST IN AIR DISTRIBUTION







## Modular Diffuser patent applied for

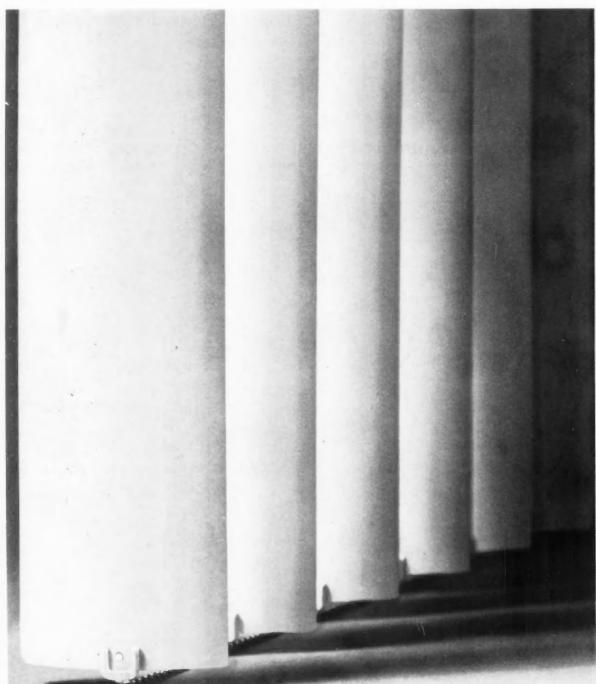
FUNCTIONAL! VERSATILE! UNOBTRUSIVE!

Carnes attractive white Model "M" Modular Diffuser enhances the aesthetic quality of any ceiling. The 6-inch square modules fit virtually flush with ceiling . . . have a minimum of see-through . inhibit smudging . . . easily slip in or out for changing air direction or cleaning. An infinite number of patterns and sizes are yours by combining multiples of three modules: 1 way throw, 2 way throw, corner throw. Continuous strip patterns . . . cross patterns . . . alternating patterns may be developed to solve any design or air distribution problem. Module units . . , above windows . . . between fluorescent fixtures . around columns or walls . . . butted to light fixtures . . . carry out architectural lines and blend with all ceiling materials. They are equally effective when used as an air return. Modules are made from General Electric's revolutionary new LEXAN, a self-extinguishing, high-impact material that withstands temperatures to 225° without distortion. Frames are available in a wide variety of sizes and types . . . easily joined to make any continuous length or width desired. For complete details, write for Medular Diffuser Catalog No. 460.

Carnes also manufactures Round, Rectangular,
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Registers • Grilles • High- and Low-Velocity ATC
Units • Roof and Wall Ventilators



CARNES CORPORATION, VERONA, WISCONSIN, / CANADIAN SUBSIDIARY: WEHR AIR EQUIPMENT COMPANY, LTD., 86 GERTIE STREET, WINNIPEG 2, CANADA

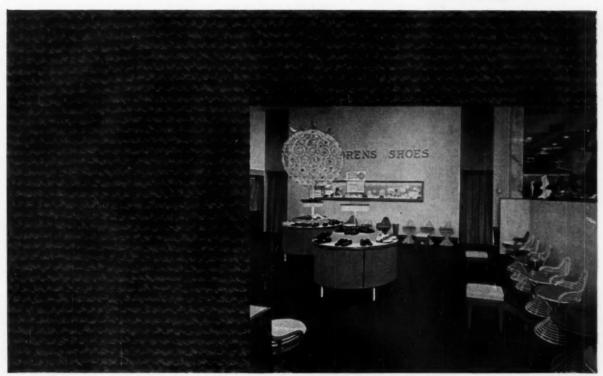


This is the new, wider, aluminum louvered vertical Flexalum's new, wider (33/8") louvers are in perfect harmony with today's large glass areas. Because they have the reflective properties of aluminum, Flexalum Wide-Louver Verticals solve problems of sun and thermal control. As a year-round thermal curtain, they cut heating and air-conditioning costs. Closed, they assure privacy; open, they admit adjustable, glare-free light. Their baked enamel finish and perpendicular position make them practically dust-proof. Flexalum Verticals are available with both center or side pull. Completely integrated mechanism and hardware are guaranteed to give

Write to Bridgeport Brass Company, Hunter Douglas Division, 30 Grand Street, Bridgeport 2, Conn. for descriptive literature and specifications, engineering assistance or cost estimates. See our insert in Sweet's Architectural File.

you years of maintenance-free service.

# Why carpet for a shoe department should be specified by the "feet"...



Shoe Department in the new Meier & Frank Co., Portland, Oregon. Architects: Welton Becket & Associates. Carpet by Gulistan (weave shown in actual size).

In a shoe department everybody looks down. The right carpet actually helps make a sale. For example, solid color enhances shoes. Which color? A cool blue or green—such as the subdued blue Gulistan shown here—best sets off warm leather tones. The close, tight weave gives more than long wear. It's easier to walk on. It shows the entire shoe. Shoes "set" high for a better view. And, this carpet's extra firmness, combined with extra depth of pile, make new shoes seem more comfortable.

Every commercial carpeting job has uniquely different

requirements. Gulistan not only has the *most* experience but . . . the *best* facilities to meet all requirements. That's why Gulistan handles so many important carpeting jobs. Jobs like the world's first atomic surface ship or New York's newest, most spectacular restaurant; Arizona's newest and most elaborate theatre.

Remember: whether it's plain or fancy . . . ready-made or custom-made . . . you can get what you want from

GULISTAN® CARPET

There are Guilstan contract carpet specialists in all major cities . . . "at your service" to discuss any floorcovering problem, large or small.

Or write: Commercial Department AR-5, A. & M. Karagheusian, Inc., 295 Fifth Avenue, New York 16, N. Y.



## Selling Success!

Quincy Lee Concept home-two bathrooms and a powder Kohler fixtures in Quincy Lee homes are supplied by Hamilton Plumbing, Heating & Electric Co. of San Antonio.

### WO KOHLER BATHROOMS

### in Quincy Lee homes

"The chief advantages are: (1) the two bath home is more convenient and better suited for growing families, (2) the buyer knows that the builder is planning for him, (3) there is a conscious status symbol effect, as in the swimming pool or second automobile."

QUINCY LEE

Builder Quincy Lee, of San Antonio, Texas, decided there was no better way to attract home buyers than to provide the kind of convenience they want most, and the recognized quality that wins their confidence.

So he built homes with two bathrooms, and installed Kohler Plumbing Fixtures.

His sales proved how right he was!

Even in homes priced as low as \$11,000, Quincy Lee offers two Kohler bathrooms. Many of his Concept homes, starting at \$17,900, have two-and-a-half. Kohler Fixtures used, in white and color, include Minocqua baths; Chester, Tahoe and Radiant lavatories; Trylon and Wellworth closets.

More and more buyers want-and expect-multiple bathrooms. And Kohler Fixtures with All-Brass Fittings give unexcelled evidence of quality and value.

KOHLER Co. Established 1873 KOHLER, WIS.

Note location of the two bathrooms in this plan for a one-story Lee Home.



ENAMELED IRON AND VITREOUS CHINA PLUMBING FIXTURES . ALL-BRASS FITTINGS . ELECTRIC PLANTS . AIR-COOLED ENGINES . PRECISION CONTROLS

Workers, from atop this 70-foot maneuverable boom apply Pratt & Lambert paint to "Old Trinity's" intricately fashioned ceiling.

CRAFTSMANSHIP
IN THE
PACKAGE





# DIGNITY OF "OLD TRINITY" UNDISTURBED AS RENOVATION PROCEEDS ON SCHEDULE



Untouched by time, the early English Gothic Old Trinity provides a charming contrast to surrounding skyscrapers.

The architecture of Trinity Church in New York City is one of the finest examples of English Perpendicular Gothic in this country, and the windows are among the oldest stained glass windows ever made in America.

To avoid disturbing the Anglican church services with unsightly scaffolding during recent renovation, painters worked on the lofty domed ceiling from atop a unique telescoping boom 70 feet above the floor of the nave.

Over 500 gallons of Pratt & Lambert products were used on the renovation, including: Lyt-all Flowing Flat, Vitralite Enamel, Vapex Masonry Paint, and Lyt-all Double Duty Primer.

Pratt & Lambert representatives offer architects sound, practical counsel on all finishing problems...surface preparation, color styling, specification writing...and on the right materials to provide best protection. Call your P&L representative or write: Pratt & Lambert Architectural Service Department, 3301 38th Ave., Long Island City 1, N.Y.; 4900 S. Kilbourn Ave., Chicago 32, Ill.; 75 Tonawanda St., Buffalo 7, N.Y.; 254 Courtwright St., Fort Erie, Ontario.

ARCHITECT: Adams & Woodbridge, New York City
PAINTING CONTRACTOR: Climbin-Simon Inc., New York City

PRATT & LAMBERT-INC. NEW YORK . BUFFALO . CHICAGO . FORT ERIE, ONTARIO

the paint of professionals for over a century

# **IMPORTANT**



# **ANNOUNCEMENT**

to people who hear voices\*

\*voices that intrude or disrupt and noises that project when they should be hushed.



# The new Aircoustat® Model W Return Air-Vent Silencers stop the transmission of noise without blocking air flow

Aircoustat Return Air-Vent Silencers eliminate the distracting sound of voices that spill from one area to another. Their slim design gives you a choice of installation. You can install them within a wall or ceiling or hang them on doors or walls. Let Koppers long experience in sound control help you. Write today for information to: KOPPERS COMPANY, INC., 3005 Scott Street, Baltimore 3, Maryland.



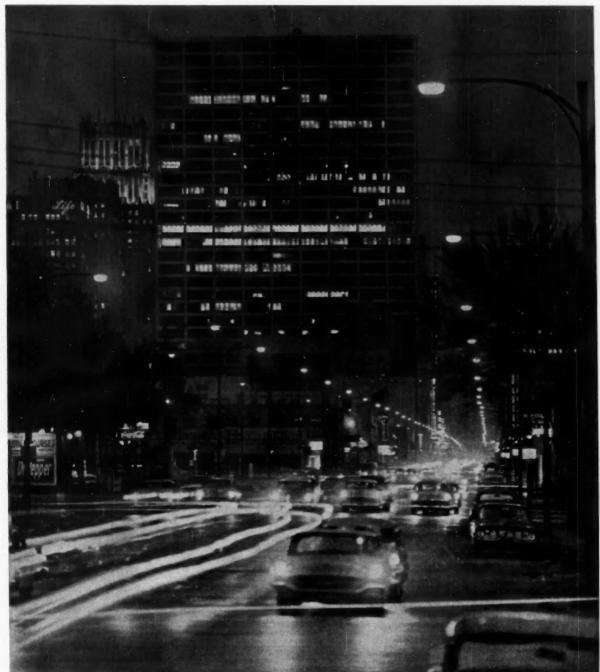
Model W Return Air-

Model	Thickness	Width	Length
W-1	31/2"	30"	48"
W-2	3½"	42"	48"
W-3	5"	30"	48"
W-4	5"	42"	48"
W-5	7"	30"	48"
W-6	7"	42"	48"



# SOUND CONTROL METAL PRODUCTS DIVISION

Engineered Products Sold with Service



Fannin Street looking north from Gray Street

HOUSTON DISCOVERS that traffic congestion either ends at curbside or extends into building lobbies—depending upon the kind of elevatoring used. Why? Because there is more to completely automatic elevatoring than simply leaving the operator out of the car! Any elevator installation that fails to provide complete automation for all of the constantly changing, widely varying traffic patterns that occur throughout the day and night—invites curtailed service, long waits and traffic congestion. This applies in a like degree to the greatest skyscraper and the smallest commercial or institutional building. How do tenants and visitors react? After all, they are people. They react in a like manner to elevator service. And a building's reputation soon reflects their reactions. The mark of a CLASS "A" building—large or small—is completely automatic AUTOTRONIC® elevatoring. It accurately predicts and delivers a magnificent performance. Since 1950, more than 1,100 new and modernized buildings across the United States and Canada have contracted for AUTOTRONIC elevatoring by OTIS—the world's finest!



WAITERS

Baker



## HONE COMB

in

# OFFICE PARTITIONS

Simplify partition construction with kraft paper HONEYCOMB sandwich cores. And save money! Improved design cuts finishing operations . . . assures fast, easy installation. Light weight lowers freight charges . . . speeds handling. Durable HONEYCOMB cores also minimize maintenance costs. And they can be bonded to almost any facing material.

Write for free booklet and names of partition manufacturers who are now using UNION HONEYCOMB.



#### The Record Reports

Office of the Year Awards

continued from page 44

Those receiving Merit Awards in the smaller building category are shown on this page. The Standard Rate & Data Service, Inc. Building was designed by Maher & McGrew of Chicago; the Parke, Davis & Company Building, designed by the Chicago office of Skidmore, Owings & Merrill.



Awards of Merit (up to 300 employes); (above) Standard Rate & Data Service, Inc., Skokie, Ill. (below) Parke, Davis & Company, Ann Arbor, Mich.



Office buildings which received Merit Awards in the category of buildings designed for 300 or more employes were: the Blue Cross-Blue Shield Headquarters, Boston, designed by Paul Rudolph and Anderson, Beckwith and Haible, associated architects; and Kaiser Industries, Inc., Oakland, California, whose architects were Welton Becket and Ascontinued on page 82

other

GLIDE-GRIDWALL architectural aluminum

**PRODUCTS** 

glide

Monumental stock and custom types. All sash operate and bypass for window cleaning from interior. Strength of section allows heights to 6'6". The leader in the field for weather-tight performance and beauty of sight lines.

glide

Monumental stock and custom types. Glazed with  $\frac{3}{6}$ " to 1" thick glass. Double sill, flush with floor, leak-proof even in complex multiple track and wall pocket units. Stainless steel rollers and track. Transom units available as integral part of door framing. Screens may be used on interior or exterior as required.



PANAVIEW stock door units employ the finest construction features of the GLIDE door series at competitive prices. Double weather-stripped, alumilited, and available in panels with single or %" insulated glass.

# PANASEAL

WINDOWS AND WINDOWALLS

The most economical window wall available, Infinite variety is achieved by mulling and stacking PANASEAL windows in any combination. Ideal for schools and commercial buildings. PANASEAL windows also available for residential use.

## GRID WALL

#### ENTRANCES

Engineered for greater strength by integrating 1" narrow stiles with ½" plate glass, GRIDWALL offers the most appealing entrance door on the market. Cylinder lock, housed in push and pull plates of charcoal bronze finish, simultaneously throws a concealed bolt into threshold and head of door frame for maximum security. A complete line of mullion framing for flush glazing is available.

write for brochures and details GLIDE-GRIDWALL • 7463 Varna Avenue North Hellywood, Califernia • TR. 7-3213



PAINTING BY JOHN OTTERSON

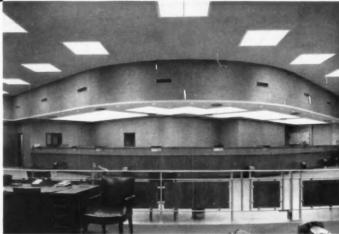
## **NUANCE**

The subtleties of design inherent in **GRIDWALL** curtain walls make the difference important to the architect. In GRIDWALL, protruding sash members or glass stops are noticeably absent. And subtleties in engineering detail have earned for GRIDWALL the kind of performance on which architects depend. GRIDWALL IS THE ARCHITECT'S CURTAIN WALL. A manual containing comprehensive GRIDWALL details, specifications and test data is available on request.





Things Look Good at the Nation's Second Oldest Bank



Here's another Litecontrol bank installation which features glamor without glare and function without frills. It's at the Slater Trust Office of the Industrial National Bank in Pawtucket, Rhode Island - a bank which traces its corporate ancestry to the Providence Bank, founded in 1791.

Fixtures are all equipped with Holophane acrylic lenses, and include a luminous lens ceiling plus 4' x 4' and 2' x 4' units. Note how the luminous lens ceiling panels are designed "round the corner" under the curved soffet, over the tellers' counters.

The 4' x 4' fixtures are spotted to adequately illuminate the irregular public area and officers' section. A specially designed long narrow lens fixture may be seen above the elevator in the major photo.

Think of Litecontrol for your next installation.

INSTALLATION: Slater Trust Office, Industrial National Bank, Pawtucket, Rhode Island.

ARCHITECT: Leonard S. Muir, Pawtucket, Rhode Island.
DESIGN ENGINEER: A. Thomson Cooksey, Pawtucket, Rhode Island.
ELECTRICAL CONTRACTOR: Crawford Electric Construction Company, Pawtucket, Rhode Island.
DISTRIBUTOR: Westinghouse Electric Supply Company, Providence, Rhode Island.

LITECONTROL DISTRICT SALES ENGINEER: Dallas G. Dearmin, 5 Hilkrest Ave., Greenville, Rhode Island.

AREA SHOWN: General Banking Area.
CEILING HEIGHTS: 15'-0" and 10'-0".
FIXTURES: Litecontrol Luminous Lens Ceiling panels, #4384RS-6025 8-lamp Rapid Start recessed 4' a 4' fixture, and #9344RS-6025.
4-lamp Rapid Start recessed 2' x 4' fixtures, all using Holophane

acrylic lenses.

AVERAGE INTENSITY: Approximately 90 footcandles in service.



TEGONTROL LIGHTING

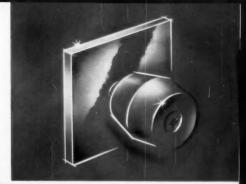
LITECONTROL CORPORATION.

36 Pleasant Street, Watertown 72, Massachusetts

DESIGNERS, ENGINEERS AND MANUFACTURERS OF FLUORESCENT LIGHTING EQUIPMENT DISTRIBUTED ONLY THROUGH ACCREDITED WHOLESALERS

No corrosion -- ever!





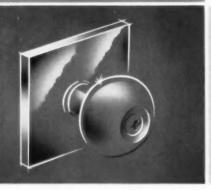




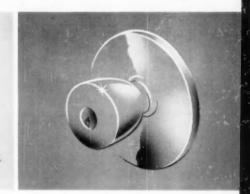
No polishing--ever!

Everlasting

# stainless [9932



Smooth as satin



craftsmanship in enduringly beautiful Stainless Steel . . . a splendid choice of magnificent designs . . . in heavy duty Cylindrical Locksets or easy-to-install Unit Locksets... for every conceivable functional requirement.....

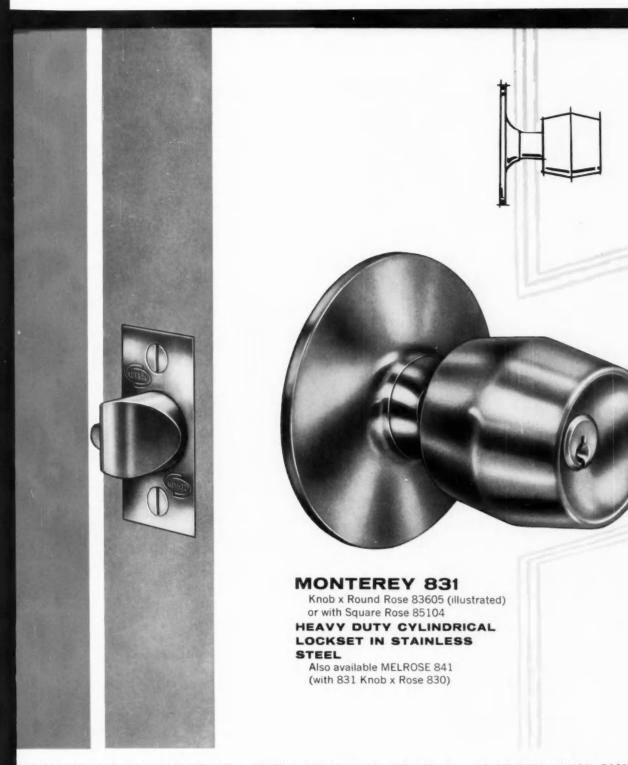




# Crafted in STAINLESS STEEL

# BY CORBIN OF COURSE

FOR SECURITY / PRIVACY / PERFORMANCE ... IN COMMERCIAL, PUBLIC, HOSPITAL & INDUSTRIAL BUILDINGS ...



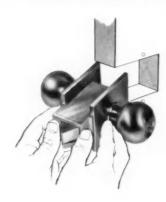
ENTRANCES & EXITS...PASSAGEWAYS...GENERAL OFFICES...PRIVATE OFFICES...APARTMENTS...HOTEL ROOMS

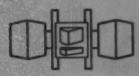
Here you have a choice of three meticulously-designed CORBIN Cylindrical Locksets. There's nothing to surpass their elegance... their satin-smooth beauty... their styling... their performance. Crafted in stainless steel, their finish never changes, never discolors... blends with any decor, any material. Specify Stainless Steel Cylindrical Locksets—by CORBIN, of course!—and you'll be confident of fulfilling the most exacting functions and requirements... for a lifetime of satisfaction. Masterkeyed as desired.



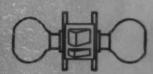
## UNIT LOCKS OF

# STAINLESS STEEL





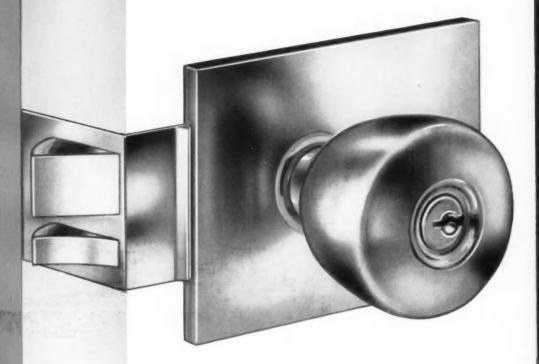
**MONTEREY Design 931** 



ESSEX Design 932



WINDHAM Design 934



WINDHAM

An unbeatable combination: the beauty and endurance of Stainless Steel, and the simplicity and ruggedness of the Unit Lock—by CORBIN, of course! Multiple installations are easy and fast, therefore most economical. Specify any of these smart designs—they're all popular!—for a lifetime of satisfactory performance. Masterkeyed as desired.



### P. & F. CORBIN DIVISION

THE AMERICAN HARDWARE CORPORATION NEW BRITAIN, CONNECTICUT



Architect: William Tamminga. Consulting Structural Engineer: Karl A. Krause. Steel Fabricator: Mosher Steel Company.

Steel Erector: Palmer Erection Company. Bethlehem supplied structural steel for this job.

# Texas motor hotel completed in 8 months thanks to steel framing



Much of the steel frame is left exposed and painted black, or pastel blue with striking architectural effect.

Eight months from the day they broke ground for the Carrousel Motor Hotel, near the International Airport in Houston, it opened for business . . . and the owner's investment started paying off.

A good deal of the credit for this remarkable speed record must be given to the architect's choice of steel framing for the 110 guest rooms, the large dining room, and the promenade. The steelwork not only went up fast, but also permitted all the other trades to move in quickly, and speed the motor hotel's completion.

Thanks also to the steel frame, the owner will be able to expand the hotel quickly and economically. A new steel frame can be tied in to the old one without having to put in another set of columns and losing floor area.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA. Export Sales: Bethlehem Steel Export Corporation

BETHLEHEM STEEL

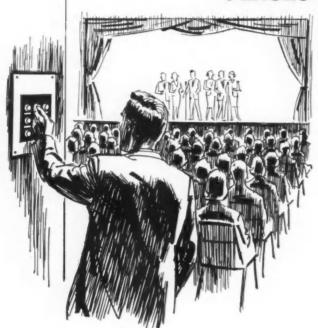


for Strength

Economy

Versatility

# New *Executone* sound systems give you great design freedom in planning PLACES OF ASSEMBLY



## Broaden capabilities of large rooms—with sound.

Today's institutional activities — and the economies of space use — demand a broad range of service from public assembly rooms and buildings.

A civic auditorium, for example, must accommodate meetings, broadcasts, musical and theatrical events, ceremonies, expositions, etc. A gymnasium may be called upon to serve as a social hall... theater-in-the-round...community forum...exhibition area.

A sound system capable of handling such diverse functions can be provided with surprising economy—if it offers enough flexibility of input, coverage and control.

Executone's unique zero-level design, with transistorized controls, accepts any combination of close or widely separated inputs—mikes, record players, tape decks, movie projectors, radio or TV tuners and telephone line sources. An

Executone control panel, capable of mixing 9 or more inputs, is available in a light, fully portable console. It requires no plug-in power source or ventilating; can be located at any distance from the inputs and power amplifier — without noise or loss of quality. Zero-level transmission permits use of single conduits for both input and output wiring — for substantial installation savings.

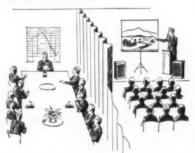
## 2. Control sound from best audience vantage.

Control of sound levels and balance depends on some person's subjective judgment. This person should be situated where his hearing corresponds truly to that of the audience, to insure full coverage without excessive volume. In an auditorium, for example, controls traditionally located backstage or in projection booths may now be brought unobtrusively into the audience. A rear column or wall can accommodate a compact, flush-mounted Executone mix-

er. Or a portable mixer may be plugged into a special receptacle under a conveniently located seat. These units—with edge-lighted lucite panels—can be operated even in a completely darkened auditorium.

Another solution is the placement of Executone mixers in conventional locations—with small, matched line amplifiers at critical spots in the audience. In a church, an usher's station would serve. In a night club, a rear table might be chosen. Such auxiliary controls greatly increase the system's flexibility.

## 3. Permit split or combined room functions.



Frequently, spaces are physically joined —or subdivided—to accommodate varying events or audiences of varying size . . . e.g., banquet rooms, multi-purpose school rooms, etc. In these cases, Executone system flexibility is important—especially in the location of sound sources and controls. It becomes even more vital when isolated areas are to be joined by sound alone. In planning a church system, for example, you may wish to offer your clients the use of an area for overflow congregations . . . sound distribution to selected classrooms and Brides'

or Mothers' rooms . . . to and from chapels and sanctuaries.

Executone implements these functions, at low cost, by simple input switching through the main power booster - for bridging and separating individual sound channels. Small, conveniently placed, transistorized line amplifiers serve as secondary controls. Executone's zerolevel transmission eliminates distortion and noise problems.

4. Maintain quality reproduction from moving sources.



Church and synagogue services illustrate a problem that arises frequently in large-room design. That is: the need for multiple sound pickups capable of evenly reinforcing speech or music from roving participants. System planning based on the complete Executone line finds ready solutions. For example, the wide variety of specialized microphone pickup patterns helps the church designer provide sensitive coverage of altar, pulpit, organ, choir, Stations of the Cross, and all other points from which services are conducted. Placement of controls in the

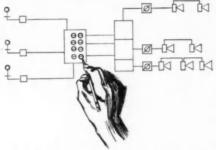
congregation—as explained in (2), above -assures maintenance of proper volume and balance.

#### 5. Link separated functions with intercom.



Executone communications are invaluable in rooms where a number of separate functions have to be coordinated. In theaters or auditoriums, for example, stage management, lighting and other functions mesh smoothly when instant contact is available-via Executone.

#### 6. Apply system planning to acoustics, aesthetics and performance.



The importance of a coordinated sound system goes far beyond the savings available through single-source specification. Matched electronic characteristics are essential for clear, life-like reproduction. System planning minimizes the architect's aesthetic problems, too. The compactness and smart detailing of Executone components . . . the wide choice of units and unobtrusive mountings . . . flexibility of placement . . . all contribute to good appearance.

The broad line of reproducers meets the special acoustic demands of any interior. Low-level coverage is available through a wide selection of multiple ceiling reproducers . . . high-level coverage through carefully designed theater type systems.

With an integrated Executone system, you also have the assurance of full installation responsibility, and on-the-spot maintenance for any contingency - by factory-trained technicians. There are no field assemblies. Each system is manufactured and tested-in its entirety-at the Executone factory. All units are engineered to stringent transportation terminal standards-for operation 24 hours a day, 365 days a year. Every component is guaranteed by the factory for a full.

Use the coupon below for completedata including wiring plans and specifications on Executone sound systems for places of assembly.

	r -	4	Execut 415 Lo	one, Inc., Dept. B-4 exington Avenue, New Y	ork 17, N. Y.			
CY'S FILE		Please send me your Architect's File on Sound Systems for Places of Assembly.  I am specifically interested in the following building types:						
ARCHITECT'S FILE  ARCHITECT'S FILE  FOR PLACES OF PLACES OF ASSEMBLY	☐ theaters ☐ churches	schools stadiums	hospitals plants	transportation terminals	offices retail store			
	Nome							
[xacalgas	Address							
	City			ZoneZone				

#### Office of the Year Awards

continued from page 72

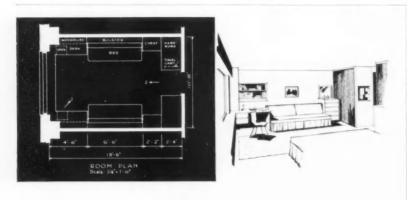
sociates of Los Angeles, California. More than 60 nominations for the

More than 60 nominations for the awards were made by members of the American Institute of Architects and members of the Association of Consulting Management Engineers. Thirty buildings were in active contention. The jury consisted of the editors of Office Management and

American Business Magazine.

Silver plaques will be awarded the two "Office of the Year" top winners; bronze plaques will go to the Merit Award winners.

In the past ten years, winners of the awards have included: the John Hancock Mutual Life Insurance Building, Boston; the United Nations Secretariat Building, New York; Lever House, New York; Aluminum Company of America, Pittsburgh; General Foods Corporation, White Plains, New York; Mid-American Home Office, Prudential Insurance Company of America, Chicago; Seagram's, New York, Southland Life Insurance, Dallas,



# Chances are 1000 to 1 that this plan WON'T fit your requirements!

Out of over a thousand dormitory furniture plans on which we have worked there has been only one case where two institutions adopted exactly the same student room furniture layouts and designs. This is why Sligh-Lowry Contract Furniture Company has no stock plans or furniture units but is constantly called in to consult with the architect and the college administrators and residence halls directors to assist in developing room layouts and designs and specifications for pre-built, pre-finished, built-in and free-standing furniture for dormitory rooms to best suit each individual institution's needs, wishes and budget. The above illustrated plan exactly met the requirements of a leading mid-western university.

Let us help to develop one that will completely meet yours. Send for our comprehensive Dormitory Furniture Planning Manual at no cost to college and university officials or architects.



CONTRACT FURNITURE COMPANY

HOLLAND, MICHIGAN



Awards of Merit (300 or more employees): (above) Blue Cross-Blue Shield Headquarters, New York (below) Kaiser Industries, Inc., Oakland, Calif.



more news on page 260



# INDIANA LIMESTONE



### lends ageless character to contemporary design



When you work with random ashlar applications, it pays to consider the versatility and compatibility of Indiana Limestone Veneer. Blending easily with modern materials, it gives impressive dignity to institutional, commercial, industrial and residential construction.

It is available in a variety of finishes and is used with Indiana Limestone trim that is accurately cut to precise specifications.



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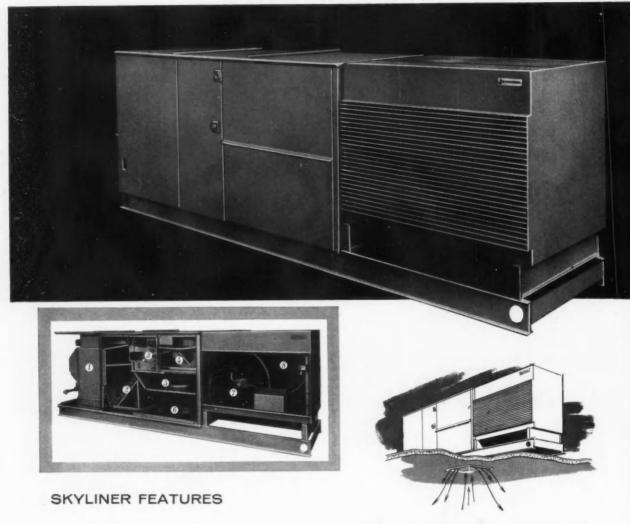
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ARCHITECTURAL RECORD May 1961



- Armor-coated heating section—gas-fired, two-pass, heavy-duty type, with all joints and surfaces coated, inside and out, with fire-fused A-19 corrosion resistant ceramic coating. A.G.A. approved.
- 2 Cooling evaporator coil—aluminum finned-copper tube type for peak performance. Located downstream of heating unit, adjacent to outlet.
- Factory-wired electrical panel—standardized and tested to simplify installation and eliminate costly troubleshooting.
- Permanently lubricated blower assembly heavy-duty, lube-packed, sealed ball bearings in blower and motor eliminate need for periodic lubrication service.
- 5 Fresh air inlet—provides for blending of filtered makeup air with return air. Adjustable up to 1/3 of total volume.
- 6 Conditioned air cutlet—connects directly to a short, pre-insulated combination supply-return duct. There are no transmission losses.

- Quality Compressor—operates up to 125°F, outside temperatures. Standard Tecumseh or Copeland, easily serviced or replaced in any section of the country.
- 8 Oversize Condensing Coil—the larger area dissipates more heat to provide greater cooling efficiency.

### TECHNICAL INFORMATION SERVICE

Detailed information and product specification sheets on the Skyliner may be obtained from your local Janitrol representative or by writing the factory. There's no obligation, so why not bring your files up to date?

JANITROL

# NEW ROOF TOP **HEATING-COOLING SYSTEM** HAS BROAD COST & COMFORT ADVANTAGES for single story buildings

# *SKYLINER* **TROL**

DOESN'T USE INSIDE SPACE...ELIMINATES DUCT SYSTEM...ALLOWS REDUCTION IN BUILDING HEIGHT... INSTALLS FAST WITH LESS LABOR

Whether you should specify the Janitrol Skyliner depends on the job, of course. But if the budget is tight, and you're looking for ways to chop costs without penalizing quality, by all means consider the Skyliner.

Shipped completely factory assembled, tested and ready for installation on the roof, the Skyliner "package" provides really economical heating, cooling or year 'round conditioning. Conditioned air is circulated through a ceiling diffuser (located beneath the unit) in the conditioned area. No duct system is needed . . . total building height can be reduced. It has an unobtrusive, low silhouette . . . no stack is required . . . flue gas exhauster is furnished. And not a single cubic foot of usable inside space is used by the Skyliner system!

One or more Skyliner units may be used to provide a simple, efficient zonecontrolled comfort system, with each Skyliner controlled by its individual thermostat. A wide range of capacities is offered to match the needs of each

The Skyliner is completely enclosed in a weatherproof, insulated, aluminized steel cabinet. The unit has been operationally tested in 60 m.p.h. winds and for two hours at 12-inch/hr. rainfall. No water or sewage service, no refrigerant piping or charging and no complicated electrical wiring are required. All important factors in cutting costs and speeding up installation!

### Here are Some Points to Remember about the Janitrol Skuliner

Multiple Unit Zone Control Type—You can have an individually sized and controlled unit for each occupancy area. Each unit operates only for its own zone, without standby or transmission losses. Multiple units assure continuity of service, since the shut down of a single unit for service or maintenance will not affect performance of other units.

Low Installed System Cost—A Skyliner packaged system offers substantial savings over a conventional site-fabricated central system by:

Elimination of equipment room.
Elimination af duct system.
Elimination of wiring, assembly, installation and checking of individual
system components.
Elimination of water or sewage service.

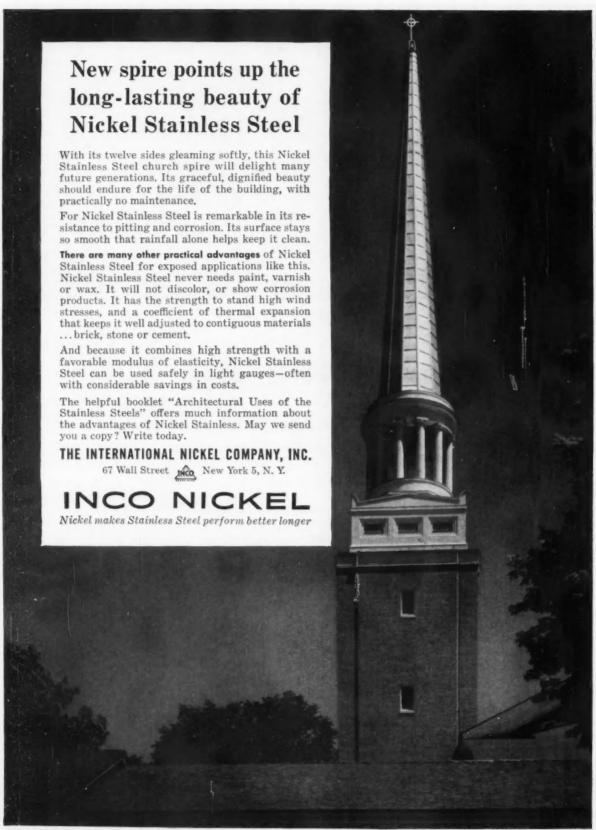
Meets or exceeds satismal standards—All Skyliner units carry the certification seal for capacity and performance according to the rigid standards of the Air-Conditioning and Refrigeration institute. Components are listed by Underwriters' Laboratory and the American Gas Association.

Leasing Plan to Save Capital Investment A complete Skyliner system can be lease on a long-term basis. Permits owner to keep their working capital working

### **HEATING & AIR CONDITIONING**

A DIVISION OF MIDLAND-ROSS CORPORATION, COLUMBUS 16, OHIO IN CANADA: MOFFATS LTD., TORONTO 15





New 100-foot Nickel Stainless Steel spire and cross on the Goodrich Memorial Chapel, Albion College, Albion, Mich. Architect: Frank E. Dean.

Associate Architects: Trautwein & Howard. General Contractor: Miller-Davis Company. Roofing Contractor: Overly Manufacturing Company.

Westinghouse helps Montgomery Ward Power-Up for super service selling







Bathing the interior with the latest in "selling" illumination are Westinghouse Mainliner fluorescent fixtures.  $30^\circ$  x  $30^\circ$  steel louver shielding diffuses the light and spreads it gently, complementing the merchandise. Ideal for largearea lighting, 700 of these handsome luminaires are used throughout the store. In photo, above, are W. K. Ostler, WESCO Branch Manager; F. L. Newlin, Ward Store Manager; C. H. Behr, Westinghouse Sales Engineer; and M. J. Muus, V. P. Newbery Electric Corp.

# Shopping convenience and comfort backed by reliable power distribution system

Every foot a handsome, service-packed department store, Montgomery Ward's new Richmond, California, unit is the largest retailer in the Oakland Bay area. This facility is part of Ward's \$500,000,000 nationwide expansion and modernization program. Vital statistics include: 165,000 sq ft, 42 sales departments, 500 employes, 2000-car parking lot, and a declared policy of charming atmosphere, convenience and fast service.

Lighting the customers' way as well as the displayed merchandise are Westinghouse Mainliner luminaires. Seven hundred of these recessed and shielded fluorescent fixtures provide a high level of illumination throughout the store... in selling areas, offices, and in the semiopen-air garden shop. Modular construction of Mainliner units, in many combinations, readily lends itself to the various ceiling con-

struction techniques and lighting requirements of selling areas. Westinghouse color-corrected mercury-vapor luminaires sparkle over the 2000-car parking area.

Providing a solid base for lighting and power activity throughout the building is an array of Westinghouse distribution equipment. This modern facility is equipped with Westinghouse lighting and power panelboards, motor starters, safety switches, dry-type transformers and heat pumps for year-round air comfort control. All are expertly applied and engineered to work together. Thus, Westinghouse assists one of the nation's giant retailers to Power-Up for profit. You can be sure . . . if it's

# Westinghouse (



Welcome shines everywhere . . . for the convenience of Ward's nighttime shoppers, Westinghouse OV-35 mercury-vapor luminaires are placed strategically throughout the parking area. Sixty-five of these units serve the 2000-car lot. A specially designed optical system directs a major portion of the color-corrected light to the roadway surface, providing high utilization levels. Supporting the luminaires are aluminum monotube, double-arm street lighting standards.



P. R. Cunliffe, Chief Mechanical Engineer; E. A. Kendall, Chief Electrical Engineer, both of Montgomery Ward; and M. Brasseur, Westinghouse Chain Marketing Representative, exchange views on store layout. Reliable Westinghouse equipment has long been the standard in electrical specifications for Montgomery Ward construction.

J-94153-3



Customer comfort is paramount... here J. R. Miller, Westinghouse Construction Engineer, and H. D. Carter, Building Superintendent, examine one of two Westinghouse air-to-air heat pumps in the auto service building, separate from the main store. These heat pumps quietly distribute air to the sales area, automatically heating or cooling as required. Attractive two-tone charcoal floor cabinets blend with any building design.







TOP: Reviewing construction plans in the mechanical equipment room are C. H. Behr, H. D. Carter and J. R. Miller. Four Westinghouse magnetic reversing Life-Linestarters, mounted on the wall, control motors driving auxiliary equipment. At the right is a Westinghouse CDP distribution panelboard, feeding power circuits in the room. Famed Westinghouse AB De-ion® circuit breakers insure foolproof protection for equipment against short circuits and dangerous overloads.

CENTER: A preliminary stage of the project sees C. H. Krieger, Consulting Electrical Engineer; T. Rhodes, President, Hilp & Rhodes, General Contractors; and A. E. Alexander, Architect, reviewing store electrical system.

BOTTOM: C. H. Behr and H. D. Carter converse normally beneath a quiet Westinghouse 15-kva DS-3 dry-type transformer. Many of these small, lightweight units are installed adjacent to selling areas where noise would be objectionable. Wherever quiet operation is essential, specify Westinghouse transformers. They test below 45 db in an ambient of 24 db and only Westinghouse sound-tests every production line dry-type transformer. This DS-3 transformer provides 120/240 volts for distribution by the NPLAB lighting panelboard shown below.

J-94153-4

OWNER: Montgomery Ward & Co., Chicago, Ill.
ARCHITECT: A. E. Alexander, San Francisco, Calif.
CONSULTING ELECTRICAL ENGINEER: Charles H. Krieger, San Francisco, Calif.
GENERAL CONTRACTOR: Hilp & Rhodes, San Francisco, Calif.
ELECTRICAL CONTRACTOR: Newbery Electric Corp., Richmond, Calif.
DISTRIBUTOR: WESCO, Oakland Calif.



Measures up to what you want in a fine wood paneling!

## 7/16" Architectural Craftwall.

What do you demand of a fine wood paneling? Beautiful graining? Rich tone? A true solid-feel? All this, and more, is yours when you specify Roddis 1/16" Architectural Craftwall.

Architectural Craftwall is a new-type, genuine wood paneling that works and feels like the finest 3/4" material—with hand-selected veneers and an exclusive finish that resists scuffs, stains and abuse. It has exceptional strength and stability.

 $V_{16}$ 's unique center core of Timblend, man-made board, gives this vital strength and rigidity, assures freedom from movement on the wall. No underlay-

ment is necessary with Architectural Craftwall. It mounts directly on the studs! Acoustical values are excellent, too. Matching hardwood molding and trim available.

Choose your ½6" Architectural Craftwall from any of 9 different woods—V-grooved, or V-grooved, cross-scored and pegged, or without grooves. In lengths up to 16'.

Best of all, Roddis  $\frac{7}{6}$  Architectural Craftwall costs far less than  $\frac{3}{4}$  material! And it's guaranteed for life, in writing. Send coupon for complete information and illustrated brochure.



Weyerhaeuser Company

Roddis Division Marshfield, Wisconsin Weyerhaeuser Company, Roddis Division Dept. AR-561, Marshfield, Wisconsin Please send more information on

Please send more information of %" Architectural Craftwall.

Company...

Address

City ----- State



Day-Brite CFI\*-30 fixtures with Power-Groove lamps maintain 130 footcandles throughout the plant area. Uplighting apertures reduce ceiling contrasts, make fixtures self-cleaning. Fixtures are arranged 15-foot O.C. at a mounting height of 18 feet.

Recessed Day-Brite fixtures with diffusing enclosures were used where vertical surfaces of precision control equipment require high level illumination with control of reflected glare.



General Electric Computer Plant, Phoenix, Arizona: Architects: Daniel, Mann, Johnson & Mendenhall, Los Angeles; Electrical Contractors: New State Electric Co. and Etts, Hokin & Galvin (both of Phoenix)







### How G-E Computers put the accent on accuracy with Day-Brite Lighting

Talk about *critical visual tasks*—General Electric really has them in this new plant where complicated computers are fabricated and assembled.

A tough lighting problem? Not with Day-Brite equipment. Day-Brite CFI®-30 Comfort For Industry fixtures with Power-Groove lamps make seeing easy and comfortable at high illumination levels, speed up plant operation and reduce assembly errors.

Fast, easy installation, greater efficiency and reduced maintenance bring Day-Brite quality within the range of virtually every lighting budget. For details, phone your Day-Brite representative today. Day-Brite Lighting, Inc., 6260 N. Broadway, St. Louis 15, Mo., and Santa Clara, Calif. In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ont.

Write for FREE booklet on Modernization and Relighting: Day-Brite Lighting, Inc., 6260 N. Broadway, St. Louis 15, Mo.



NATION'S LARGEST MANUFACTURER OF COMMERCIAL AND INDUSTRIAL LIGHTING EQUIPMENT

### Minimum Water-Vapor Transmission with **Two Low Cost Products**

designed for

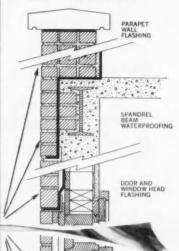
### CONCEALED FLASHING and WATERPROOFING FLOORS

### COPPER ARMORED SISALKRAFT

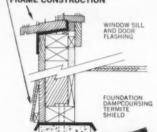
**Electro-deposit copper** laminated to reinforced paper

Pure copper protection at a fraction of the cost of heavier gauge copper yet with the same waterproofing properties (perm rating 0.00). Pliable, amazingly tough and strong. Can be easily bent and formed. Available in weights of 1, 2 and 3 oz. of pure copper per sq. ft. in widths from 4" to 60". Additional information, suggested specifications and samples upon your request.

#### MASONRY CONSTRUCTION





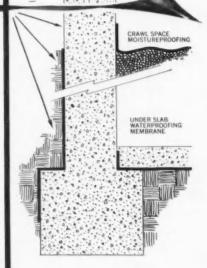




Polyethylene film laminated to reinforced paper

This combination of inert, black polyethylene film and strong reinforced paper produces a product with "body" and strength to facilitate easy, intact application. Moistop is a permanent vapor barrier with a perm rating of 0.15 for use under concrete slabs. Provides protection against the upward migration of moisture through floors. Can also be used in crawl spaces and as a concealed flashing material. Job size rolls of 72", 84" and 96" containing 1,200 sq. ft.

Copper Armored Sisalkraft and Moistop comply with FHA Minimum Property Requirements when used as recommended.



reinforced paper, foil, plastics and other products for construction, industrial packaging and agriculture

DIVISION OF ST. REGIS PAPER COMPANY

American SISALKRAFT Company

One idea from the imaginative new, full-color brochure "Design Studies", showing recessed area for easy floor cleaning.

### SANYMETAL PARTITIONS...

Easiest to order to install to clean

Sanymetal's complete layout and engineering service saves you time and effort . . . simply specify room dimensions plus partition requirements and the expert Sanymetal staff works out all details.

In addition to the ease of specifying and ordering, Sanymetal's completely flush design...concealed latch and mechanism, factory installed integral hinge brackets and flush hinges mean far faster, easier installation and unsurpassed ease of maintenance.

It all adds up to lowest in-place cost and longest care-free life. Your Sanymetal representative has the full story or write direct.



All Sanymetal hinges are

fully recessed - flush with

door surface...no protrusions to catch dirt; tamper

proof and easily cleaned.

Namoplate identifies every compartment

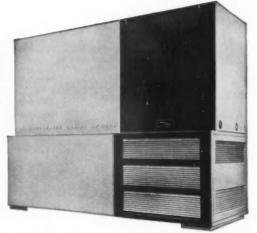
Sanymetal world's leading producers of toilet partitions

1721 Urbana Road, Cleveland 12, Ohio

# A NAJOR BREAKTHROUGH IN COOLING & HEATING

# ARKLA'S NEW 25-TON GAS CHILLER-HEATER

Here it is—the revolutionary new Arkla absorption unit that heats and cools without a steam producing boiler or converter. Gas-fired burners in the generator section energize the system for absorption cooling, or for heating. It's the perfect system for modern year 'round gas air conditioning.



INSTANTLY HEATS AND COOLS AUTOMATICALLY ■ HEATS WATER WITHOUT A BOILER ■ COOLS WATER WITHOUT A COMPRESSOR ■ REQUIRES NO LUBRICATION ■ SEALED FOR LIFE, REQUIRING MINIMUM MAINTENANCE ■ MAINTAINS SAME CAPACITY FOR THE LIFE OF THE UNIT ■ HAS NO MOVING PARTS IN THE HEATING AND COOLING CYCLE ■ FIRST MEDIUM OR LARGE TONNAGE AIR CONDITIONER THAT HEATS. Truly revolutionary . . . investigate for your next building project the new Arkla DF-3000 Gas-fired All Year® Chiller-Heater. For details contact your local

Gas Company. Or write Arkla Air Conditioning Corporation, 812 Main Street, Little Rock, Arkansas. American Gas Association

ditioning Corporation, 812 FOR HEATING & COOLING
American Gas Association GAS IS GOOD BUSINESS!



This large, economy-size swamp poodle isn't the only character with a big mouth.....

Take our Streamliner 200 (leading



architects do). This competent, wide capacity whiteprinter also boasts a big bazoo. 42" wide! And king-size appetite to match. "200" dotes on engineering drawings, specifications, floor plans, etc. Gobbles 'em... fast. Neat about it, though...crisp, dry prints in seconds. Placid disposition... like its brothers, Streamliner 400 and 100, "200" can be handled by anyone. Sound like a whiteprinter you'd like around? Say no more. Rent, lease, or buy. For the full, high volume, low cost story, mail coupon today.

Remember: for best results from Ozalid

Whiteprinters, use Ozalid Paper and Ozalid Supplies...we repeat; use Ozalid Paper and Ozalid Supplies.

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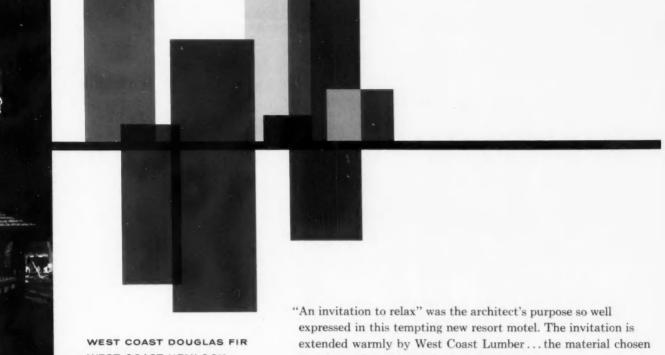
USES WEST COAST



### IMAGINATIVE INTERIOR GLOWS WITH WARMTH

West Coast Hemlock paneling highlighted with varied grain patterns forms a setting for a striking staircase of laminated West Coast Douglas Fir.

Architect: Percy D. Bentley, F.A.R.A. Interior Design: Arthur Morgan, A.I.D.



WEST COAST HEMLOCK WESTERN RED CEDAR SITKA SPRUCE . WHITE FIR to achieve the design objective throughout.

The appeal of western informality is created by the broad use of West Coast Douglas Fir, West Coast Hemlock and Western Red Cedar to highlight the ranch styling. The living, natural beauty of these materials attains the architect's goal of "elegance with simplicity."

Rough-sawn West Coast Douglas Fir beams are used in the roof and for exterior posts to form a bold expression of strength.

"Gracious, but not grandiose" is the designer's term for the interiors that radiate the soft warmth of 1"x8" West Coast Hemlock tongue and groove paneling.

Exteriors reflect the rich tones of rustic Western Red Cedar 1"x12" boards and 1"x2" battens.

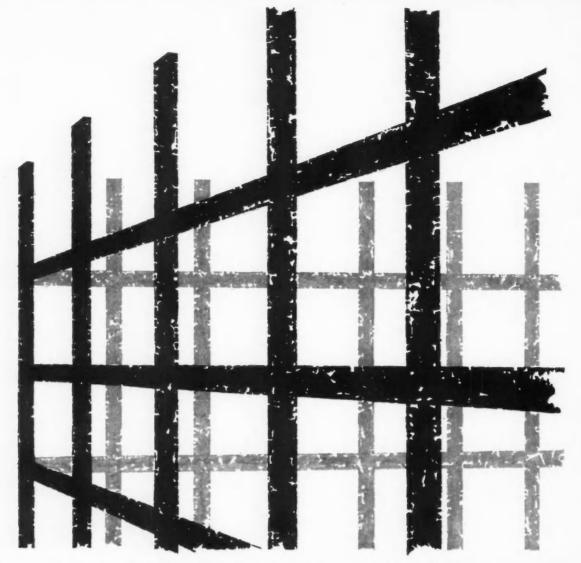
West Coast Lumber materials used in this outstanding design example are all standard sizes, contributing to the economy and ease of construction.

West Coast Lumber possesses the practicality, the versatility to accomplish the tasks your imagination sets. Complete information on sizes, grades and supply awaits at your nearby lumber dealer.

For technical West Coast Lumber information, write:

WEST COAST LUMBERMEN'S ASSOCIATION

1410 S. W. MORRISON STREET, PORTLAND 5, OREGON



# New support for lowered construction costs

Armco Steel Corp. 
The Babcock & Wilcox Co., Tubular Products Div. 
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PRODUCES WELDED STAINLESS STEEL TUBE PRODUCES WELDED CARBON STEEL TUBE

Much of the weight of cutting building costs can be borne by designing structural support of welded steel tubing. Recent developments resulting in larger sizes and heavier wall thicknesses open many opportunities: you get the efficiency of a thin-walled, hollow section with trimness of line that integrates well with other elements. No need for additional trim or finish unless you want it. Tubing can be formed to any shape—and it lends itself to pre-fabrication and rapid on-site assembly.

The practicality of utilizing the light-weight-to-high-strength ratio of welded steel tubing has been proved by recent experience—in modern office buildings, schools, commercial buildings—even homes. Best current example: supporting curtain walls. Many of the quality tube producers listed here can supply information, or write Department AR-2, Welded Steel Tube Institute, Inc., Hanna Building, Cleveland, Ohio.

WELDED STEEL TUBE INSTITUTE, INC.







Thermopane® insulating glass in sliding doors keeps guest rooms quiet and comfortable year 'round.

### L.O.F reports on

### the Open World® of hospitality

### ... Howard Johnson style



How can a new motel successfully compete with established motels in the same area? How can its guests enjoy the "open world" around them in comfort and quiet, despite the screaming of jet airliners overhead and the roar of highway traffic beside it?

We went to the Howard Johnson Motor Lodge in Memphis, Tennessee, to find out. Lewie Webb, managing director, and Austin K. Hall, AIA, gave us the answers.

(see next page).



Question: How long has your Motor Lodge been in operation, Mr. Webb?

Mr. Webb: Approximately six months. We opened the first building with 22 guest units in June, 1960. All three wings with a total of 50 rooms were in operation by the middle of July. So far, we've served over 16,000 guests. And we have broken ground for two more buildings, which will raise our total to 100 rooms.

Question: To what do you attribute this success?

Mr. Webb: Well, the Howard Johnson franchise is a big asset, of course. But the inviting appearance of our establishment, as you approach it, is what stops them. You've noticed we've used lots of glass in the restaurant, office and guest units. This is a principle laid down by the Howard Johnson chain that really works: Let people see what to expect before they enter.

Our location on U.S. 51 is and will become an increasingly important factor. And we're the motel nearest to the airport. When completed, the N-S Interstate Highway interchange will be only 900 feet from our entrance.

Question: Do you get much repeat business?

Mr. Webb: Indeed we do. About 40% of our guests come back for return visits. We already have several reservations for rooms during next year's football season. And many of our guests find it so pleasant here, they extend their stay for several days.

You see, our rooms are luxuriously furnished, air conditioned, sound deadened and truly relaxing. Would you like to see a typical room?

We entered the unit from the rear, where cars are parked. It was impressively spacious and handsomely Typical of Howard Johnson Motor Lodges across the nation, registration offices have glass fronts and sides. L·O·F Parallel-O-Plate® was used here, for crisp, attractive appearance.

decorated. One wall was surfaced with beautifully mellowed brick, salvaged from an old building of Civil War days. The other wall was paneled with walnut. And the front wall, overlooking a landscaped terrace with swimming pool, was glass from wall to wall, from floor to ceiling, and included a sliding glass door.



Austin K. Hall, AIA, and Lewie Webb, Managing Director, discuss 100-room addition to Motor Lodge in Memphis.

Mr. Hall: You can see we've tried to provide all the comforts. You can turn on or turn off the lights, television or music without stirring from bed.

There are two lavatories, each with a large mirror and a full-length door mirror. All made of L·O·F *Parallel-O-Plate®*, I understand.

I hope you've noticed how quiet the room is. The inside walls, the ceiling and that exterior glass wall are all designed to muffle distracting noise.

Question: What kind of glass is it?



Each guest unit has room-width wall of *Thermopane* insulating glass including sliding door. ¼" thick *Parallel-O-Plate* is used in both panes to minimize waviness which could cause distortion.



Mr. Hall: Insulating glass. Two panes of  $\frac{1}{4}$ " plate glass with a  $\frac{1}{2}$ " air space between them.

Mr. Webb: That's a feature I insisted on having. We're very sound-conscious here in Memphis. It has won the "Quietest City" award 14 times. An unnecessary toot of your horn can cost you a \$5.00 fine. But right here is about the noisiest place around town.

We're on a direct line with the Municipal Airport east-west runway. Those noisy jets pass 500 feet overhead. And 26,000 vehicles pass our doors per hour. Construction machinery on Interstate Highway 55 would be heard in the rooms if we hadn't used *Thermopane* insulating glass. It's a very effective sound muffler. (1" thick *Thermopane* cuts out about 44% of sounds of a frequency range of 125 to 2000 cycles per second, compared to ¼" plate glass.)

**Question:** Was noise reduction the only reason why you used *Thermopane?* 

Dining room in restaurant has mirror wall made of Parallel-O-Plate, twin ground for truest reflection.

Mr. Hall: No, we used it to effect heating and air-conditioning economies. Each room has an individual thermostat. Insulating glass helps keep room temperatures constant without excessive demand on the system.

Question: What is the temperature spread in Memphis?

Mr. Hall: About 100 degrees. Sometimes the temperature drops 60 degrees in 5 to 6 hours.

Question: With that drastic a drop, don't you get frost or condensation on those window walls?

Mr. Webb: Only once, and that was due to a leaky heater discharging too much moisture into one of the rooms.

Question: That window wall affords a wonderful view of the terrace and swimming pool, but don't the guests feel a lack of privacy?

Mr. Webb: On the contrary, guests enjoy the "open world" feeling we've created. They hardly ever draw the drapes until they're ready to retire. Instead they relax, watch a sunset from their room, stroll out and enjoy the fun around poolside.

Question: How do you control sun heat and glare?

Mr. Hall: We've used roof overhangs, and have extended the walls of each unit beyond the window wall. That not only helps shade the rooms, but forms a private patio for each unit.







Insulating glass, of course, helps keep rooms cooler in summer.

Mr. Webb: *Thermopane* has worked out so well, we're considering using it to replace the single glazing in our office.

We spent the night at this Howard Johnson Motor Lodge and enjoyed a relaxing sleep, undisturbed by inside or outside noise. Why not try it yourself, next time you are in Memphis?

Guest units have two lavatories with generous Parallel-O-Plate mirrors, plus full-length door mirror on adjacent door.

### LOF GLASS

Glass

for motels

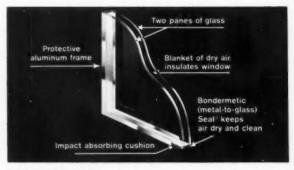


**TUF-FLEX® DOORS** — These frameless, clear-glass doors can withstand, with virtually no maintenance, all the traffic they help create. Made of  $\frac{3}{4}$ " and  $\frac{1}{2}$ " thick tempered plate glass, they are 3 to 5 times tougher than regular glass of the same thickness. Sixteen types in finished sizes up to  $\frac{48}{10}$ " in width and  $\frac{108}{10}$ " in height.



**THREE KINDS OF PLATE GLASS**—Parallel-O-Plate® is clear plate glass, twin ground for clearest vision. Parallel-O-Grey® is tinted neutral grey. Heat Absorbing Plate is pale bluish-green. Both Parallel-O-Grey and Heat Absorbing Plate reduce transmission of sun heat to keep interiors cooler. Parallel-O-Grey reduces glare more effectively.

For complete information on these and other L·O·F products, refer to Sweet's Architectural File 26-A, or call your L·O·F Distributor or Dealer (listed under "Glass" in the Yellow Pages). Or write to Libbey Owens Ford Glass Company, 811 Madison Ave., Toledo 1, Ohio.



**THERMOPANE\***— For maximum comfort and for heating and air-conditioning economy, use *Thermopane* insulating glass in windows and sliding doors. Heat loss is cut almost in half, compared to single glazing. Drafts near windows are reduced. Frost and fogging are minimized. Outside noise is muffled. Choice of plate glass (see left below) for outer pane.

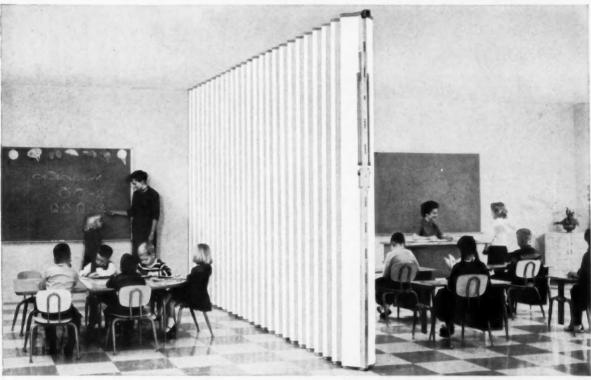


**VITROLUX\***— Rich color, fused to the back of this clear, heat-strengthened ¼" plate glass, adds youthful beauty and cheerful character to any structure when used as a facing material. It is resistant to weathering, crazing and checking. Also ideal for interior partitions. Sixteen standard colors, plus black and white. Standard-size panels up to 48" x 84".

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Toledo 1, Ohio

# Certified\* to shut out sounds other partitions let through



Furniture by Peabody

\*Decibel ratings by Geiger & Hamme Laboratories per ASTM E90-55

### **New! Steel-Walled Modernfold**

• First in sound reduction . . . first in heavy-duty design. The greater the weight, density and rigidity . . . the better a wall shuts out sound. That's why Modernfold designed the new Soundmaster 240 with twin walls of 24-gauge steel panels . . . and why this new partition leads the industry by a full five decibels in sound reduction. This sound superiority is unfailing, because Modernfold custom trims all eight horizontal edge seals on the job. Each partition fits its opening exactly—up to 25'0" high and any width.

In addition, no other partition matches Modernfold heavy-duty construction . . . the massive steel and fabric strength that pays you a dividend of longer, trouble-free service. With no maintenance cost. But compare the facts for yourself. The chart at the right shows construction and sound ratings (in decibels) for the best model offered by each of the four largest partition manufacturers. Just look:

#### NEW CASTLE PRODUCTS, INC. NEW CASTLE, IND.

Manufacturers of Modernfold Partitions and Doors, Air Doors, Modern-Cote Wall Coverings, Peabody School Furniture and Pyrox Sheathed Thermocouples. In Canada: New Castle Products Canada, Ltd., St. Lambert, Que.



Partition	"240"	"A"	"B"	"C"
*Sound Reduction 125/4000 cps av.	37.4	32.4	31.8	27.9
354/4000 cps av. (Industry Standard)	41.8	35.8	36.4	33.0
Acoustic Panels	steel 53/8" wide, wt. 1 lb./sq. ft.	uses cardboard	steel, 23/4" wide, wt. 1/2 lb./sq. ft.	uses cardboard
Sealer Strips	8	8	4	4
Foam-Lined Jamb-Seal	yes	yes	no	no
Air Release	yes	no	no	no
Pull-In Latch	yes	yes	no	no
Best Fabric Weight— Outside Covering Only	45 oz. per lin. yd.	45 oz. per lin. yd.	18 oz. per lin. yd.	27 oz. per lin. yd.
Top Row Horizontal Hinge Plate Depth	8½"	3"	(vertical)	11/2"

NEW CASTLE PRODUCTS, INC.

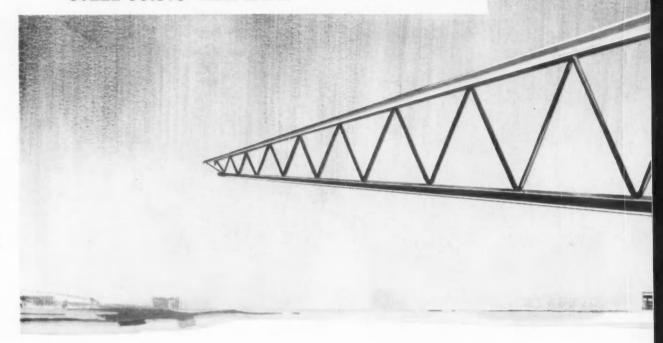
Dept. A251, New Castle, Ind.

Gentlemen: Please send full information on Soundmaster 240.

NAME FIRM ADDRESS

### Open Web STEEL JOISTS

Why Sheffield "S" Joists Are Stronger. Both top and bottom chords are made of the finest cold-rolled strip steel. A sturdier, one-piece unit that replaced former hot-rolled shapes. Identify the new design by the end of the chord. It looks like a hat. It's new, but proved and approved. In tests to destruction it has met or exceeded Steel Joist Institute standards.

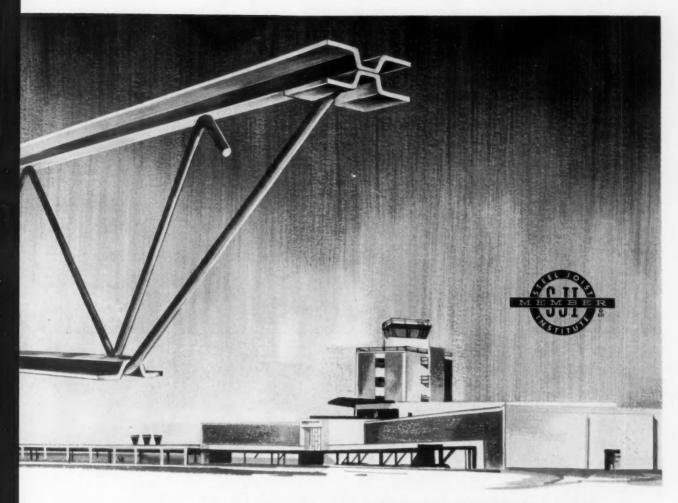


# Sheffield produced -to lower building costs

A New Design — New Electronically Controlled Fabrication Expands Production — Speeds Shipments New Construction Economies. Design for greater strength. Affect new construction economies. You can accomplish both with advanced new "S-series" Sheffield Open Web Steel Joists. Each chord member is a one-piece unit with more strength, less deadload. Joists are precision made, built to closer tolerances. Automatic, electronic controls assure highest quality production all the way.

New Cold Forming Mill expands Sheffield's production and speeds it too. This means earlier shipments to meet construction schedules with ease.

The Complete Joist Line. Sheffield Open Web Joists are available in three series: "S-series" joists that range in depth from 8 to 24 inches with a maximum span of 48 feet; the "L-series"



New Municipal air terminal, Salt Lake City. Sheffield Open Web Steel Joists offer economy, versatility and strength in virtually all types of construction.

varying from 18 to 48 inches deep, with a maximum span of 96 feet; the new "LS-series" that covers roof spans up to 144 feet and depths from 52 to 72 inches.

Detailing Service on your projects is available. Your Sheffield distributor and your nearest Sheffield office will cooperate to give you prompt service. Call either of them.

### New Joist Data Books - FREE!

Just off the press. Send for these two new data books. One tells you of up-to-date data. Contains properties and dimension data, load design tables, floor, roof and ceiling applications and accessories data. Contains revised Steel Joist Institute specifications and recommended code of practices.

The other is a booklet of new loading table sheets on the LS-series. It includes all the data you need on the new sizes, up to 144 foot span.





Write Sheffield Division, Armco Steel Corporation, Sheffield Station, Kansas City 25, Missouri.





ONE-HAND OPERATION is easy with lightweight JAMOLITE. Door above is light blue, harmonizing with blue ceramic wall tile and red floor tile.



COOLER AND FREEZER DOORS. Reluctant lobster is conveyed through JAMOLITE cooler door toward freezer door. Jamison Frostop® on freezer door prevents icing and freezing shut,

brighter,
lighter

JAMOLITE® Doors
at the new quarters
of The Summit Club

• In the beautiful Barclay Building on the City Line Gold Coast in Bala-Cynwyd, across from Philadelphia, Pa., Jamison Jamolite Doors are providing bright new color and easy operation in both cooler and freezer rooms. Jamolite doors are all plastic and weigh only 1/5 as much as thick metal clad doors. They are flush-fitting, easy to clean, and their hard, bright surface resists staining and discoloration.

Today in hotels, restaurants, cafeterias, institutions and other food-service installations, these attractive doors are the leading specification. Jamolite doors are available in white, salmon, ivory, blue-green and light blue. Insulation is foamed-in-place polyurethane plastic, 4" thick.

Write today for complete details on Jamolite Doors to Jamison Cold Storage Door Co., Hagerstown, Md. Ask for Catalog 7.

JAMISON COLD STORAGE DOORS

108

House of worship, perfectly roofed



### The Bird Architect Shingle conforms with the dominant feature, a 4-gabled roof of sweeping lines

This distinguished sanctuary is another example of the Bird Architect Shingle in perfect accord with design. Note these important features:

CONFORMITY WITH DESIGN achieved by the Architect's 18" King-Tabs 50% less vertical lines accentuate the horizontal.

**UNIFORMITY OF SURFACING** in even distribution of jumbo color granules controlled in manufacture — no unsightly application on site.

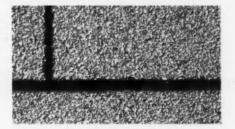
**GREATER SAFETY, TRIPLE-PROTECTION:** 300 lbs. per square, thick as standard slate; 3 full layers at every point, with 5" exposure. Flatter roofs, pitched as low as 2" in 12", use it with complete safety.

See Specifications in SWEETS FILE  $\frac{8C}{Bi}$  or  $\frac{3C}{Bi}$ 

or write BIRD & SON, INC., BOX AR-51, East Walpole, Mass.

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BIRD ARCHITECT SHINGLES

MOISTURE AND TERMITES A PROBLEM? Write for details on Bird Termite Prevention System and Vapor Barrier



**NEW!** Pilot-lighted directory on a new style G-E Master Selector Switch shows instantly which of 12 circuits are ON. Also has tiny locator light (permanently ON) that permits reading the directory and operating the switch in the dark.

# From General Electric-new Remoteincrease lighting convenience in

In homes, you provide step-saving convenience when you specify this modern low-voltage control system. All important lights can be controlled from a single location; and additional switches per light can be installed at surprisingly low cost.

In commercial buildings, G-E Remote-Control switching can reduce installation costs, make it easier to relocate office partitions, help lower the

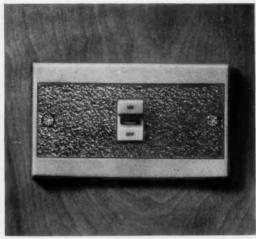
cost of operating and maintaining lighting circuits.

And now, with this new, more complete line of General Electric switches, you have greater flexibility than ever before in designing a remote-control system to your specific needs.

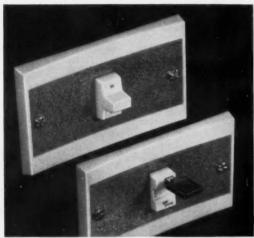
There's a new standard, push-button G-E Remote-Control wall switch, well marked for ON and OFF — plus a *locking* type — plus a *trigger* 



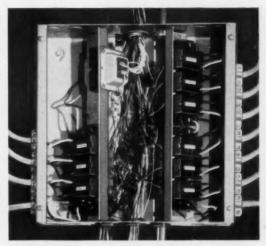
NEW! Switches that are easy to find in the dark. Now G-E Remote-Control wall switches are available with or without built-in locator lights.



NEW! Switches with built-in red pilot light. This new type of G-E Remote-Control switch is just the thing for controlling "hidden" lights.



NEW! Trigger and locking types. If your customers prefer an up-and-down "trigger" to the standard G-E Remote-Control push button, they can have it. You can suggest the locking type to prevent children from operating dangerous power tools



NEW! "Plug-in" relay box. quiet operation, easier tracing and changing of circuits if needed. It impresses customers-simplifies your wiring. A bus bar connects relays to line voltage, automatically, as they're plugged in - to give you a neat, orderly installation.





# **Control Wiring Switches** homes and commercial buildings

type. And each is available non-lighted, locatorlighted, or pilot-lighted.

In addition, there's the new pilot-lighted Master Selector Switch - extension switches - plus an interchangeable line.

For detailed information, call your nearest G-E distributor — or write to General Electric Company, Wiring Device Dept., Providence 7, R. I.

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# (+ NO surface hand pulls to tear or catch drap eries or blinds NO surface hand pulls to prevent the by passing of other units.

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ADDS MODERN STYLING AND VERSATILITY TO SLIDING GLASS DOORS

ADAMS-RITE'S 4190 locking unit is a new type of hardware for FLUSH installation in narrow stile, sliding glass doors. All parts are set flush with the door stile, including the LOCK, INSIDE OPERATOR, FIVE-PIN CYLINDER, and RECESSED FINGER PULLS. This type of hand hardware allows the doors to easily slide past other stationary or sliding units without regard for usual hardware clearance. The doors can be "stacked" in pockets, and draperies or blinds will not be torn by catching on surface hand pulls. Available with or without flush, key-operated, five-pin cylinder lock on outside pull.

FOR NEW FREEDOM OF DESIGN WHEN USING NARROW STYLE DOOR HARDWARE

THINK FLUSH!



WRITE TODAY for complete specifications and information.

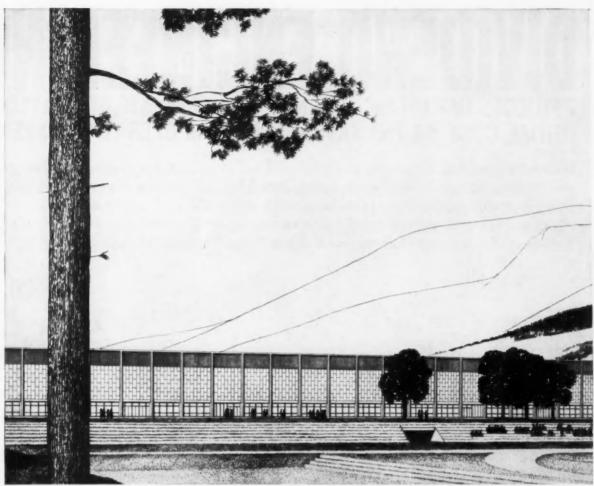
ADAMS - RITE MANUFACTURING COMPANY 540 West Chevy Chase Drive, Glendale 4, California

NO surface hand pulls

to prevent complete

retraction of doors

into "pockets.



Windswept U.S.A.F. Academy, Colorado, installs 3 miles of trim Crane Sunnywall Finpipe Radiation. Gets maximum heat output with minimum space sacrifice. Unobtrusive styling integrates with the clean modern architecture.

Sunnywall type N was chosen because of its compact efficiency. Because of its flexibility. Because its attractive, modern lines are built to last. Even excessive heat won't buckle or bend its expertly die-formed, heavy gauge steel covers.

Just about the most complete line of finpipe radiation available, Sunnywall provides a wide choice of quick-fit enclosures and easy-to-install accessories. This makes all the difference when time and labor costs are added up.

There's a choice of heating elements too. Economical steel—or superb non-ferrous elements with finest grade aluminum fins bonded to seamless copper tubing. All fins are permanently sealed to the pressure tubes for utmost durability.

For comfortable, clean convection heating with forced hot water or steam systems . . . for unmatched flexibility . . . for apartment or commercial building—specify Sunnywall by Crane.

See your regular contractor or your Crane representative for more details. Or write to Crane Co., Plumbing-Heating-Air Conditioning Group, Box 780, Johnstown, Pennsylvania.

HEART
OF HOME AND
INDUSTRY

CRANE

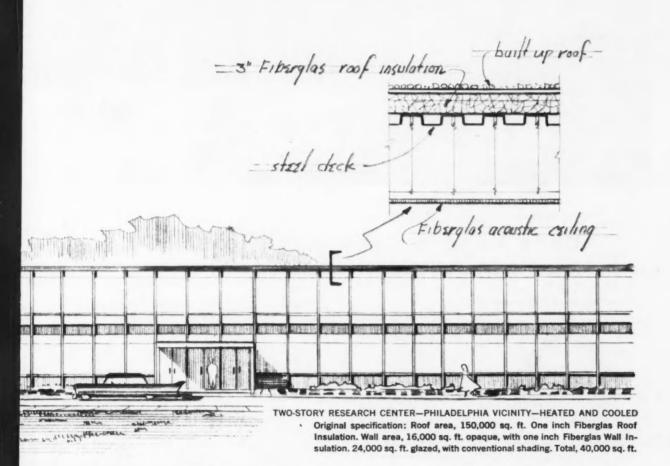
VALVES AND PIPING
ELECTRONIC CONTROLS
PLUMBING
HEATING • AIR CONDITIONING

PROJECTS IMPORTANT SAVINGS. EXAMPLE: \$16,870 SAVED IN INITIAL COST. \$4,753 SAVED IN ANNUAL OPERATING EXPENSE

Dividend Engineering is a new, quick method of pinpointing insulation specifications that can project significant savings in initial and operating costs. The example shown illustrates how this system works: roof insulation is increased from one to three inches; wall insulation from one to two inches. Fiberglast Shading Fabrics are specified for windows. Results: extra insulation cost is \$42,000. But it effects a \$16,870 saving in initial equipment, plus a projected annual operating savings of \$4,753...

	DIVIDEND ENGINEERING DOLLAR SAVING PROPOSAL
	Original Engineering Specifications Specifications (Illustrated)
	Cost of Heating & Cooling Equipment\$189,450\$130,580
	Savings \$ 58,870  Additional Construction  Cost \$ 42,000
	Net Savings on Initial Costs \$ 16,870
	Projected Annual Operating Costs \$ 64,222 \$ 59,469
	Savings on Operating Costs, per year\$ 4,753
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curtain wall panel	THE PARTY OF THE P
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a high return on the initial investment. Such savings make the production and comfort benefits of year-'round air conditioning an economic possibility for more and more industrial and commercial structures... Let us demonstrate Dividend Engineering on one of your current projects. Contact your local Fiberglas representative, or write Owens-Corning Fiberglas Corporation, Industrial & Commercial Division, 717 Fifth Avenue, New York 22, New York.



\*A service Owens-Corning will provide to demonstrate to builders, designers, management and financial groups that optimum use of Fiberglas materials can result in reduced initial and operating costs and improved building performance.

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Niagara-Mohawk Power Corporation, Huntley Station, Buffalo, New York.

Power company selects Abolite...

# Gets easy-on-the-eyes lighting, and holds the line on costs



INSTALLATION DATA

Abolite HMFAU-2400 Alzak aluminum uplight fixtures with 1000 watt color-improved mercury lamps. Ceiling height 65', mounting height 55', spacing 18' x 24'. Average maintained footcandle level: 30.

Electrical Contractor: Buffalo Electric Co. Engineers at this power plant wanted high bay lighting that combined comfort with low installation and maintenance costs. They got it by installing Abolite fixtures equipped with 1000 watt color-improved mercury lamps.

Though these fixtures are mounted 55 feet high, they provide comfortable, glareless 30 footcandle average light throughout the building. Light directed upward through the fixtures' open tops washes out dark ceiling shadows. 35° shielding of lamp virtually eliminates glare.

Most important, this system costs less to buy and maintain than a comparable fluorescent system because fewer fixtures are needed. Maintenance costs are less, too, because air circulating through Abolite's open-top fixtures sweeps them clean of dulling dust.

For high bay lighting that combines both comfort and economy, specify Abolite fixtures. The complete line includes RLM-approved Alzak aluminum and porcelain enamel fixtures for use with all kinds of mercury and incandescent lamps. Write for more information.

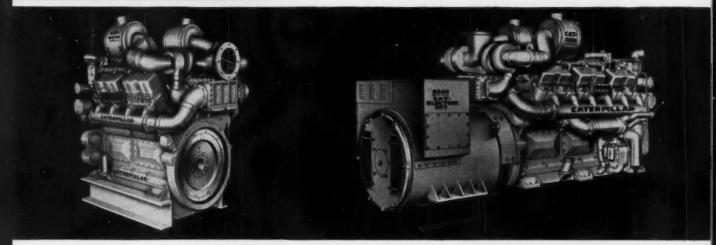


THE JONES METAL PRODUCTS COMPANY

West Lafayette, Ohio

# engine CATERPILLAR

# new Cat D398-D379



Cat D379 Industrial Engine. The 6.25" bore, 8.00" stroke D379 and D398 both offer the latest in attachments including marine gears and generators. The D379 Electric Set develops up to 350 KW continuous, 400 KW standby.

Cat D398 Electric Set. The D398 Electric Set shown here with Static-Regulated, Static-Excited Generator features a new generator with built-in static excitation system with no exciter generator or vibrating parts. Develops 500 KW continuous, 600 KW standby.

### Give more horsepower per pound, per dollar than any other industrial engine in their class

The V12 D398 and the V8 D379 are rated at 950 and 630 maximum HP, respectively. Electric set versions reach to 600 and 400 KW. Marine ratings exceed 1000 HP. These engines are now available at prices that are less than crankshaft replacement prices of some competitive engines in their class.

Published list prices show the D398 to be thousands of dollars less than the next lowest priced industrial engine that will develop comparable horsepower. Other advantages are quality aluminum alloy bearings, aluminum pistons with cast-iron ring band for top two compression rings, drop forged-dynamically balanced crankshaft and high strength rigid block. These engines save in space and weight, too . . . with at least 35-40% less size and 4800 pounds less weight than other makes with comparable horsepower.

### Here are more reasons why Cat D398 and D379 Diesels and Electric Sets give you extra value NEW PERFORMANCE STANDARDS

- Turbocharged-Aftercooled design
- Static-Regulated, Static-Excited Cat Generators
- · High flow lube and water systems
- · Ability to burn wide range of fuels

### NEW ENGINE FLEXIBILITY

- 100% HP from either end of engines
- Six available accessory drives up to 50 HP each
- · Controls available for either side
- Standard (counterclockwise) rotation or opposite rotation

### NEW SERVICE FASE

- · Fuel or lube filters serviced from either side
- · Remove heads without disturbing manifolding
- · Easily inspect or remove pistons, rods and bearings through large side ports
- · Externally mounted oil pumps for easy inspection and maintenance

For complete specifications on the D398 and D379 Diesel Engines or Electric Sets, contact your Caterpillar Dealer or Caterpillar Engine Division, Peoria, Illinois.

### CATERPILLA

Caterpillar Tractor Co., Engine Division, Peoria, Illinois, U. S. A.

# Three PPG doorway packages



HERCULITE Tempered Plate Glass DOORS, combined with Polished Plate Glass windows, are so transparent you scarcely see them in the PPG Open-Vision Front of the Rex Pharmacy, Atlantic, lowa. HERCULITE Doors permit the interior and exterior architecture of the building to be harmonized and coordinated. Hardware can be aluminum, bronze or stainless steel. Contractor: Harry Sutton, Atlantic, Iowa. Installed by Voss Glass Co., Atlantic, Iowa.

TUBELITE DOORS with glass panels. The whole store is a display window at Davidson's Homestead House in Oklahoma City. The trim TUBELITE Door and Frame are ruggedly built from heavy aluminum tubes with no exposed seams. They will last as long as the building, with little maintenance. Their handsome appearance and simplicity of design make them ideal for new buildings or the modernization of old ones. Contractor: Staas Construction Company, Oklahoma City, Oklahoma.



118

## offer a wide choice of designs



WEST Tension DOORS. Nine of these narrow-style doors are used in the new building of the First Federal Savings and Loan Association of Orlando, Florida. Who could ask for a more beautiful entrance to a business office? Six of the doors open automatically with mat operated PITTCOMATIC Hinges. Architect: L. Alex Hatton, A.I.A.; Contractor: Jack Jennings, both of Orlando, Florida.

Pittsburgh Doorway Packages give you a choice of HERCULITE® Tempered Plate Glass Doors, WEST Tension Polished Plate Glass Doors, both with aluminum, bronze or stainless steel frames, and TUBELITE® aluminum framed doors with glass panels. Each, in its own way, offers a wide-open invitation to come in and do business.

From PPG you get the most *complete* doorway package in the industry. With each of these doors, you get as part of the package, clean, simple framing designed to look right and work best with that particular doorway. All accessories, including a variety of distinctive hardware designs, are also part of the package.

PITTCOMATIC® Automatic Door Opener Any Pittsburgh Door can be automatically opened with PITTCOMATIC... and you can take your pick of mat, handle or remote control operation. PITTCOMATIC is the time tested automatic door opener. It's safe and dependable.

Call your nearest PPG branch or distributor for more information on the Pittsburgh Doorway package, or write for our catalog. Pittsburgh Plate Glass Company, Room 1157, 632 Fort Duquesne Boulevard, Pittsburgh 22, Pa.



#### Pittsburgh Plate Glass Company

Paints · Glass · Chemicals · Fiber Glass In Canada: Canadian Pittsburgh Industries Limited



"PINHOLATH FOR MACHINE-APPLIED PLASTER GIVES US A BETTER ALL-AROUND JOB, SAVES TIME AND MONEY"... says Edward Lee, of Lee Bros., Contractor, St. Louis. "Bestwall Gypsum Company's new Pinholath overcomes many problems arising in the revolutionary change from hand to machine-applied plaster." Mr. Lee emphasizes that with Pinholath "the plaster may be machineapplied in one coat, the lath's quick and uniform water absorption permits fast straightening of the work, eliminates sagging, saves time, money, gives a more satisfactory all around job." The pinholes are scientifically designed to precise depth, width, and spaced to achieve greater wall strength through highest suction. Pinholath has 1-hour fire-rating for walls, increases plaster resistance to impact, cracking, results in high quality walls with greater compressive strength. BUILDING PRODUCTS Bestwall Gypsum Company, Ardmore/Pa. Plants and offices throughout the U.S.

## How this unit ventilator helped launch a new trend in school construction

Just four years ago Herman Nelson introduced the first unit ventilator for classroom air conditioning. It was this unit ventilator that first offered school planners a choice of future or immediate air conditioning at a reasonable cost.

Herman Nelson's unique "now or later" concept stirred interest in school air conditioning. Architects proved that air conditioned schools could often be built for less than conventional buildings. Construction savings *alone* absorbed the extra cost of air conditioning.

Classroom air conditioning has come of age. Hundreds of air conditioned schools have been built...hundreds more are on the drawing boards. Turn the page for a close look at a typical Herman Nelson "new trend" school.

Herman Nelson photo-reporter visits another air conditioned school



SECOND IN A SERIES:

## "We hope to air condition



Stratton L. Tarvin (left), Superintendent of Schools, and Dr. R. deCampos, Chairman of the Hanford Board of Trustees, reflect community enthusiasm for air conditioned schools. They feel that air conditioning should be included in the plans for all future new schools in Hanford.

Mr. Tarvin says, "Air conditioning was considered in the early stages of planning. In our

climate, non-air conditioned rooms are unbearable about four months during every school year. Our year-round unit ventilator system eliminates these conditions.

"Our first experience with school air conditioning has been very successful . . . students are more alert and attentive, and teachers are less exhausted at the end of a day."

#### ll future schools"

Stratton L. Tarvin Superintendent of Schools Hanford, California

## Architects utilize HerNel-Cool systems to reduce school construction costs

What is a community's reaction to its first air conditioned school? In Hanford, California, as in hundreds of other communities, school air conditioning has proved to be both practical and economical. In fact, school officials want air conditioning for all future schools.

Year-round HerNel-Cool Unit Ventilator systems allow the architect to design a more compact school. Low cost back-to-back classroom design makes it possible to eliminate design restrictions imposed by conventional schools. (Example: orientation for natural ventilation.) Expensive fenestration can also be eliminated.

Herman Nelson HerNel-Cool Unit Ventilators are flexible. They provide heating, ventilation and outdoor-air cooling during winter months, and keep room temperatures cool and refreshing in the summer. Air is filtered in each classroom unit . . . there are no dust-collecting ducts between the unit and the classroom. Write for more information: School Air Systems Division, American Air Filter Company, Inc., 215 Central Avenue, Louisville 8, Kentucky.



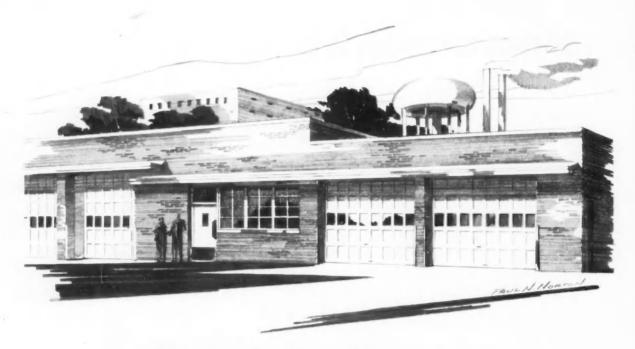
Effects of the Herman Nelson system are extremely important in the school's modern chemistry laboratory. Here a high degree of student activity, chemical odors, and other factors require the flexibility of a unit ventilator system to maintain comfortable, odor-free conditions.

## Herman Nelson



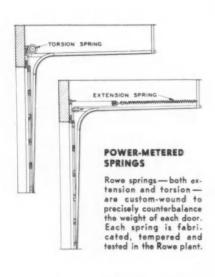
"Reaction of parents and community to our first air conditioned school has been highly favorable. It is a good example of the community's progressive education program. We're all very pleased with it," states the Hanford Joint Union High School P.T.A. President.





## **RōWAY Doors**

#### GIVE HOME-GARAGE CONVENIENCE TO COMMERCIAL BUILDINGS



Raising even a large RoWay Overhead Commercial Door is virtually as easy as opening a residential garage door. This important advantage comes from "Power-Metered" springs - a RoWay exclusive. Every door is exactly counterbalanced with a custom-wound spring, a process made possible by RoWay's all-under-one-roof fabrication system. The manufacturing of all components in the RoWay plant also assures you of strict quality control. Mechanical perfection goes hand in hand with the modern proportions of RoWay doors and the durability of lifetime-guaranteed Masonite Dorlux panels. For year 'round functional convenience, RoWay Doors are completely weathertight to seal out snow, rain and dust. Motor operators are available for all RoWay Doors. On your next industrial or commercial job, put quality into action with RoWay Overhead Doors.

## there's a Ro Way for every Doorway!





RESIDENTIAL . INDUSTRIAL . COMMERCIAL



ROWE MANUFACTURING COMPANY

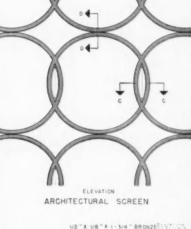
1025 Holton Street . Galesburg, Illinois

# faces in bronze



▲ Cooperative Savings & Loan Association, Wilmington, N. C. Architectural Bronze lends to this modern building of glass and metal a feeling of warmth and dignity. Nearly all the architectural metals used on the structure are extruded Bronze, including mullions, glass stops, doors, and airconditioning grilles. ARCHITECT: Leslie N. Boney, Wilmington, N. C. FABRICATOR: Newman Brothers Inc., Cincinnati.





CAST NICKEL SILVER
SECTION C-C

BRASS TUBE

SECTION D-D

▲ Empire Savings Building & Loan Association, Denver, Colo. The architectural screen dominating this facade consists of 24" dia. circles made from 1" square Red Brass tubes, Where rings intertwine, cast Nickel Silver inserts with sandblasted sides and polished faces accent the design (see drawing above, right). ARCHITECTS: Raymond Harry Ervin & Associates, Denver. FABRICATOR: William G. Zimmerman Architectural Metals, Inc., Denver.

These facades illustrate the distinctive beauty and the versatility of Bronze in architectural design. They are three of the many new examples shown in our 2nd Edition of "Architectural Metals by Anaconda." This helpful 64-page book contains practical information and detailed data on the architectural applications of Copper, Brass, Bronze, and Nickel Silver—colors, forms, physical and mechanical properties, application methods, and suggested specifications. In addition, there are many pages of fabricators' shop drawings showing exactly how effects were achieved. Write for your copy. Address: Anaconda American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

BRONZE - the Architectural Metal of Distinction

## ANACONDA® ARCHITECTURAL METALS

Anaconda American Brass Company



Painting Industry Insurance Fund Building, New York City. Here is a double curtain wall of Bronze, all in a medium statuary finish. The inner or closure wall mullions are formed of extruded shapes and the spandrels are lightgage Bronze sheets bonded to micro-sanded, cementasbestos board. The exterior mullions of rectangular Bronze tubes, with internal steel reinforcement at the outriggers, support the arched skyshades and catwalks at each floor. Skyshades are 11/2" thick shells 4' x 3', formed of Bronze sheet with inner stiffeners of Bronze "Z" shapes. ARCHITECTS: Mayer Whittlesey & Glass, W. J. Conklin, Associate Partner, New York. FABRICATORS: Trio Industries, Inc., Bridgeport, Connecticut.



## MORRIS LAPIDUS' 30-YEAR FRIEND

Senior Partner of Morris Lapidus, Harle & Liebman, architects of New York and Miami Beach, says: "In thirty years, I've formed close ties with Sweet's Files. Because I've learned that we can rely on the catalogs in Sweet's for information we need to select building materials and equipment, my associates and I regard our Sweet's Files as old friends—always there, always ready to answer questions on a moment's notice."

The real credit for the completeness and usefulness of the Sweet's Files in your office belongs to the manufacturers who make their catalogs instantly accessible in the File. They have earned your consideration.



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PLASTIC LAMINATED

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Plastic laminated toilet compartments provide new colors...new patterns...

new textures...in a material that will neither rust nor scratch.

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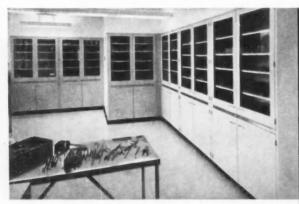


Central Sterile Supply

Bacteriology Laboratory

## Hospital Casework by St. Charles

Installed in Utah Valley Hospital, Provo, Utah



Instrument Storage



Chemistry Laboratory

JOHN H. ZENGER, Administrator WILLARD C. NELSON, Architect



Just as no two hospitals are alike, no two casework installations can be alike. Only the adaptability of custom casework can meet the more exacting requirements of today's hospitals.

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CASEWORK . SINKS AND COUNTERS
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St. Charles Manufacturing Co., Dept. ARH-5, St. Charles, Illinois



#### in concave strips

An unusual and newsworthy technique of Formica decorative laminate wall surfacing is illustrated in this outstanding New York restaurant.

Using Formica Teak 32-TK-57, five-inch strips were veneered to a soft wood core with concave fluting to a depth of  $\frac{1}{4}$ ".

The wall was shop fabricated in 4'  $\mathbf{x}$  7' fluted sections and installed tongue and groove.

Henry Stampler's Filet Mignon Restaurant . Stone Construction Co., Contractor . Formica Walls by Chairmasters.



The result is a wall with third dimension creating a pleasing pattern of light and shadow. Matching Formica table tops add to the decor.

If you would like construction details on this job together with additional ideas for distinguished Formica decorative laminate interiors, write:

#### FORMICA CORPORATION

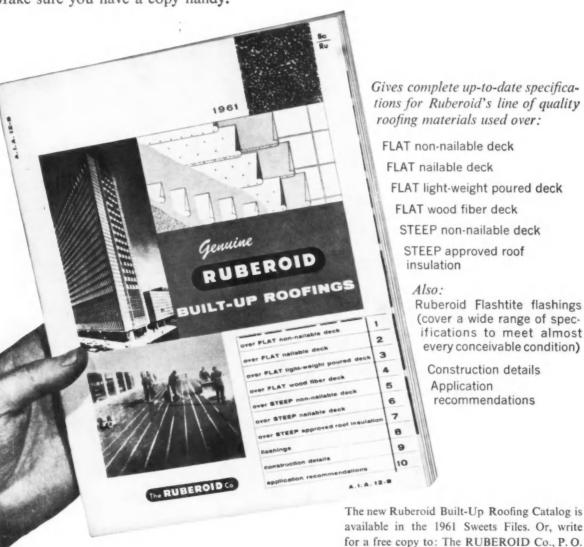
Subsidiary of Cyanamid

Department W-2, Cincinnati 32, Ohio

## Just Out!

## NEW EDITION of RUBEROID'S BUILT-UP ROOFING CATALOG

Here is the most complete built-up roofing specification manual available in the industry ... a new, up-to-the-minute 44-page edition of Ruberoid's Built-Up Roofing Catalog. Make sure you have a copy handy.



RUBEROID'

Box 129, New York 46, N. Y.

# DOWNTOWN PHILADELPHIA: A LESSON IN DESIGN FOR URBAN GROWTH

by Edmund N. Bacon, A.I.A.

MARKET GYOUG



Note: in these plans and the others which follow, North is assumed at the top of the page.

"A great urban aesthetic arises not from a cluster of architectural *chefs-d'oeuvre* but from a sensitivity on the part of each successive builder to the amenities that are already there. No good architect would dream of destroying the beautiful natural terrain of an isolated site but would instead, try to marry his building to the land and vegetation, and the water, and the sky. It is easier to forget and it is common to forget that there is also an urban terrain and that this too, is entitled to respect, even to love. Urban aesthetics are not to be made over as lightly as ladies clothes."\*

When William Penn laid out Philadelphia between the Delaware and the Schuylkill Rivers, he established its first amenities in the form of a clearly defined cross axial pattern of major streets with five squares, one in the center and one in each quadrant. Penn's design can now be discerned as the shadow of the substance of the city's downtown redevelopment program. Architect Edmund N. Bacon, executive director of the Philadelphia City Planning Commission, describes the major urban renewal projects of his city in a new context which emphasizes an urban aesthetic, based upon a design structure growing organically from what has gone before, which looks toward the future without obliterating the past.

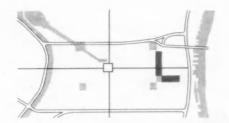
-EDITORS

The power of a design idea to influence the subsequent growth of a city is brilliantly demonstrated in the center of Philadelphia by the Penn plan of 1683 shown at left. Not only did it result, 200 years after its formulation, in the construction of City Hall at the intersection of two main axes, just as Penn planned it, but architecturally the design idea extended vertically in the 547 ft high City Hall tower, now dominant in the city's skyline, and always to be dominant because of an unwritten rule that no other building shall be as high.

This same centrality, in the following century, drew the green open spaces of Fairmount Park in the form of the 1909 Greber Parkway, cut diagonally through the developed center city, right to the 1683 William Penn focal spot, at the intersection of the two major streets.

Today Philadelphia's planners continue to develop design principles in a form capable of influencing future action. We do not try to design each new building ourselves, but we have endeavored to establish a design idea of such potency that it welds the work of individual architects, designing in fragmented areas, into some kind of coherent whole. The production of this design idea is a creative act. It must not expire with the promulgation of regulations. It can be done only by designers of the highest possible skills. How this design idea was evolved in Philadelphia over the past fifteen years by many designers, in government and out, and how it influenced the work of subsequent designers and was, in turn, influenced by them, is the subject of the pages that follow.

\*Excerpt from "The Urban Aesthetic," by John Ely Burchard, The Annals Of the American Academy of Political and Social Science, November 1957.







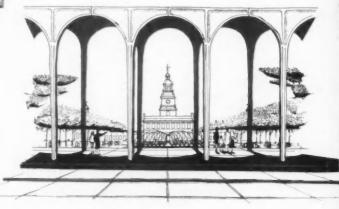
#### 1944-HISTORICAL PARKS

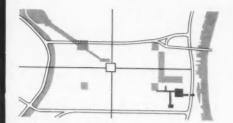
Philadelphia's planners create new open spaces for old buildings of historic importance

The publication in 1944 by the Fairmount Park Art Association of architect Roy F. Larson's designs for a setting for Independence Hall leads six years later to the first major surgical operation in downtown Philadelphia since the 1909 Greber Parkway. Independence Mall, now being completed by the Commonwealth of Pennsylvania from designs that Larson prepared for the city, extends north from Independence Hall, providing a formal foreground for this historic shrine, a practical link with the downtown expressway loop and a transition from automobile to pedestrian scale.

Larson's proposal for a modest interior block extension to the east of Independence Hall, linking it with three important and several minor historical buildings (shown along with the original Mall plan on the first plan development drawing facing page 136), was adopted and extended by the National Park Service to include the destruction of all non-historic buildings in the three block area.

The simple L shaped open space plan, with Independence Hall in the pivotal position, provided the design framework from which grew all of the later designs for this part of center city.





#### 1947-GREENWAYS

Small parks and footpaths link interesting buildings, provide recreation\*spaces and vistas





Lewis-Claire Studie

Included in the Philadelphia City Planning Commission's proposals displayed at the better Philadelphia Exhibition of 1947 was my scheme for a series of inner-block park and foothpath extensions (see key plan above) centering upon and connecting together the principal historic structures scattered through the venerable but blighted Society Hill area. (See the first plan development drawing facing page 136). Deliberately joggled to be in scale with pedestrian movement, this open space or greenway system pulled vistas of church spires deep into residential blocks, and later became the determinant for the placing of the new apartment towers which were to follow.

The first leg of our proposed system, the connection between Strickland's Second Bank of the United States and the historic houses on Locust Street, was adopted by the National Park Service, and is now under construction.



#### 1957-SOCIETY HILL

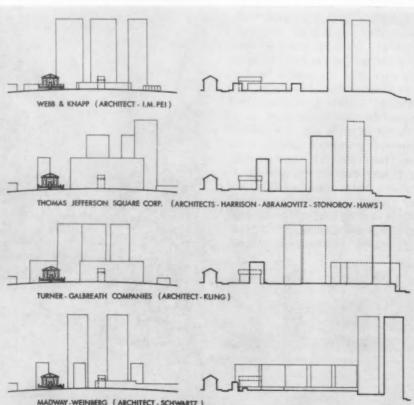
A decaying area in downtown Philadelphia becomes a redevelopment project

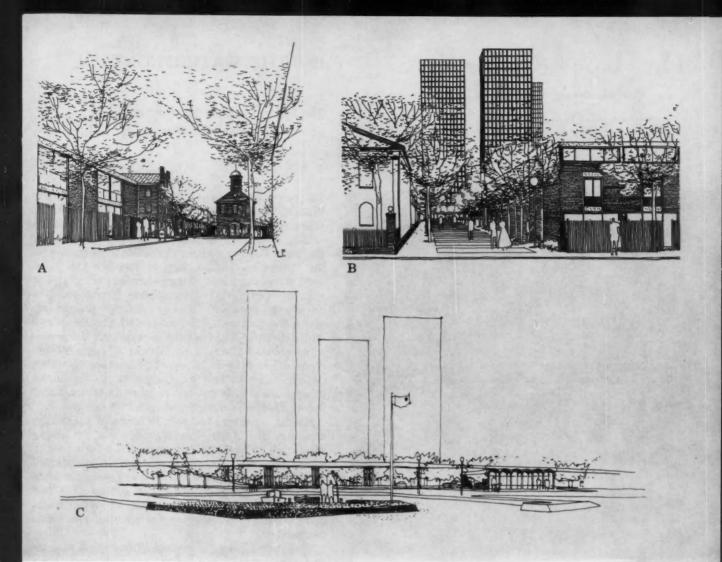
Despite valiant individual efforts, the idea begun in our greenway proposal of revitalizing the area known as Society Hill languished for ten years. The destruction of historic houses continued until Richardson Dilworth, upon becoming mayor of Philadelphia, adopted the redevelopment of Society Hill as one of the key points in his program and referred it to Albert M. Greenfield, then chairman of the City Planning Commission, for action.

The first step was the restudy by architects Vincent Kling, Roy F. Larson and Oskar Stonorov of our 1947 greenway design. Their 1957 study is shown in the photograph of the model at left. They adopted the main premise of the earlier greenway plan but enlarged and extended it from the Delaware River to Broad Street, giving it firm connections with Washington Square (shown in green on model photograph), and the waterfront.

Business leaders formed and gave financial support to the Old Philadelphia Development Corporation, organized for the explicit purpose of seeing that the plan is carried out. Encouraged by the business group, by the unique characteristics of the site, and by the architectural elegance of Preston Andrade's reinterpretation, done under a contract with the Redevelopment Authority, of the 1957 plan, four major developers went into action. Each spent approximately \$40,000 in preparation of separate competitive design proposals.



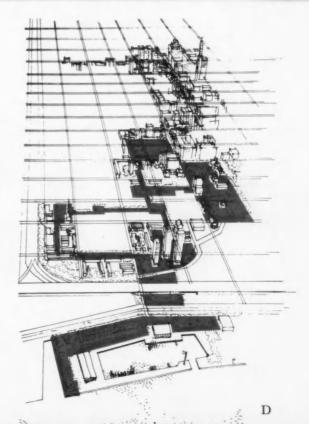


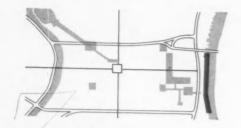


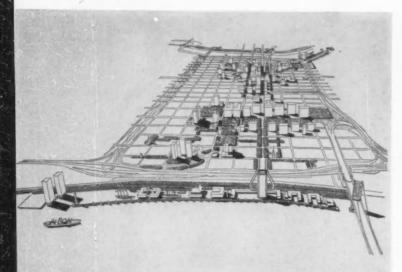
#### 1958-THE COMPETITION

I.M. Pei's Society Hill project wins

The Society Hill redevelopment project presented a particularly complex design problem because of the need to respect the scale and character of the modest 18th century buildings which were to remain. The brilliant solution worked out by I. M. Pei for the Webb and Knapp submission, shown in diagrammatic section and elevation on the opposite page, placed three-story town houses opposite and adjacent to the historic church and houses, and concentrated all the new apartment construction in three simple towers well removed from the historic buildings. This scheme was immediately adopted as the basis for construction. Pei's sensitivity to the design structure of the larger area is shown by the perspective sketch (D) which he included in his submission. The positioning of each of his three towers is precisely determined by a series of influences impinging on this site from the outside, one centering on the greenway alongside Saint Paul's Church (B), one on the axis of the Market Head House (A), and one on the town house court which is part of his scheme. From the river they have a vigor consistent with the scale of the topography and the expressway movement (C).







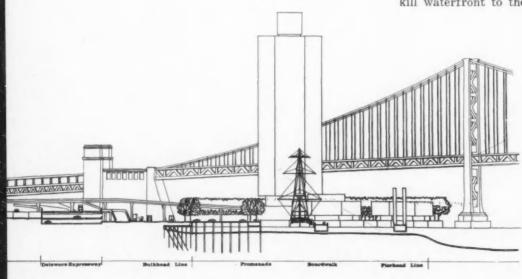
#### 1960-THE WATERFRONT

The Delaware River bank becomes part of the design structure

The two bordering riverbanks, essential elements in William Penn's original plan, have changed over the years from aesthetic assets to eyesores. It was architect Robert L. Geddes's job, working with the Ballinger Company engineers under a contract with the Commerce Department, to recreate the Delaware River edge as a design element and to join it with the Penn Market Street axis (horizontal line on key plan above). The waterfront scheme receives the thrust of the Society Hill greenway system, deflecting it northward to join with the greenway extension planned by Larson to complete the circle above Market Street. The manner in which Geddes achieved this integration is shown in the perspective at left and on the third in the series of three plan development drawings which follow.

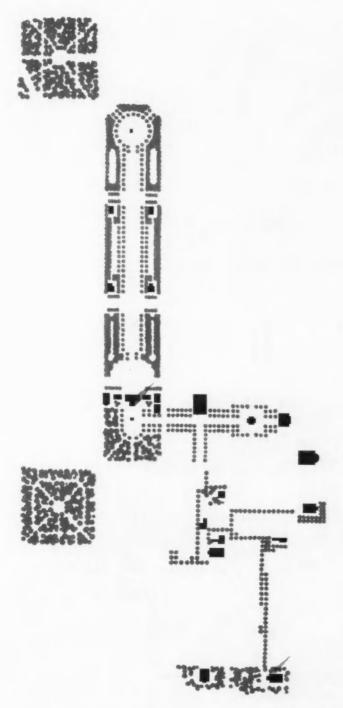
Geddes conceived his plan in terms of the design structure of the whole center city area. By basing his design on a few simple, underlying forms set in a firm relationship to each other, he demonstrated the important principle that a strong overall scheme will permit highly individualized design of a few key, carefully positioned buildings by different architects without destroying the unity of the whole composition.

The overall plan for central Philadelphia also includes a scheme for the redevelopment of the Schuylkill waterfront to the west.

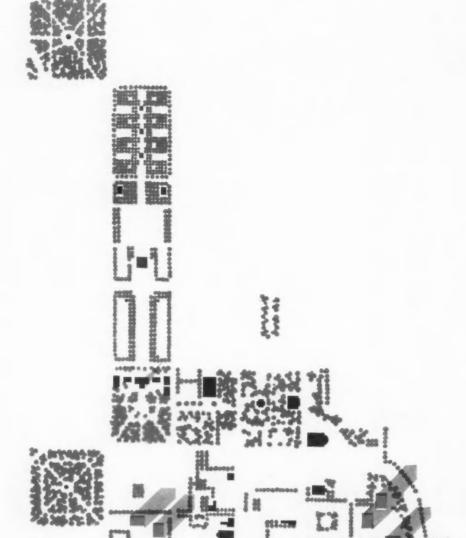




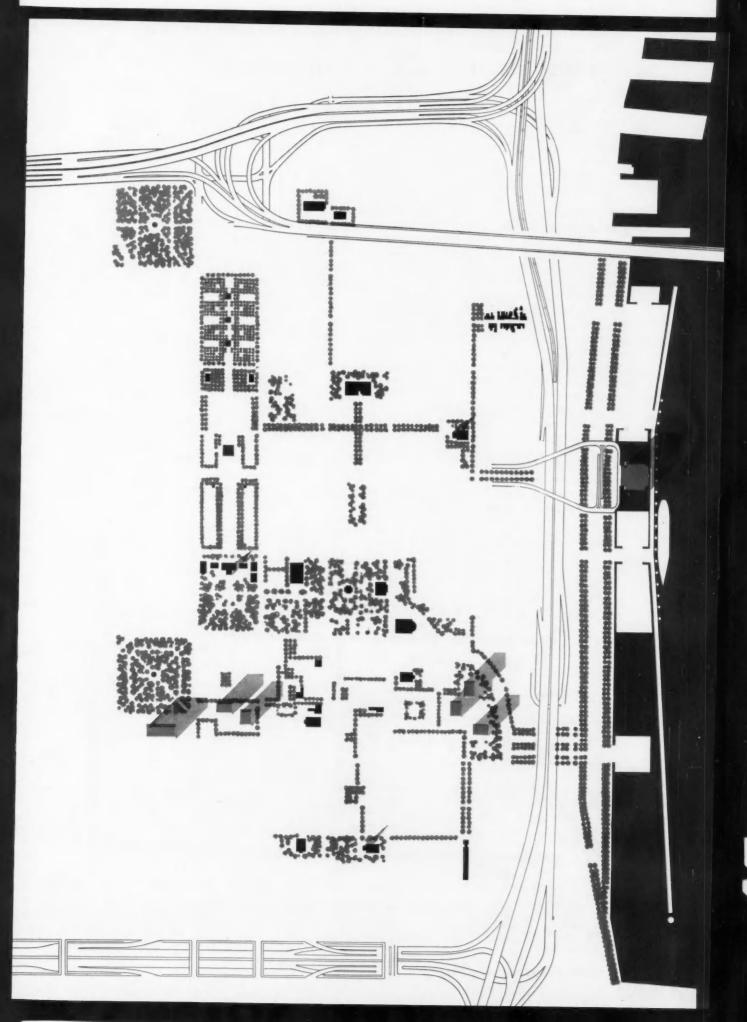
The three following pages portray the evolution of the basic design structure for the eastern third of downtown Philadelphia from 1944 to the present, illustrating the progressive clarification of its elements resulting from the interaction of planners, architects, developers, civic leaders and politicians



Original plan for Independence Mall to the north of Independence Hall, and the first scheme for a park linking historic buildings to the east (1944). The initial Society Hill greenway proposal (1947) is shown to the southeast. Washington Square, one of William Penn's five original squares, appears to the west and south of Independence Hall; another is situated to the north beyond Independence Mall



Present scheme for further development of Mall north of Independence Hall and historic park to the east. Plan shows further development of Society Hill area to the southeast, showing I.M. Pei's three towers proposed in the 1958 competition and two more towers later planned by Pei adjacent to Washington Square. Historic buildings are shown in black, Pei's towers in red. Opposite page: plan includes Delaware River waterfront development proposed in 1960, and the projected greenway extension to the north



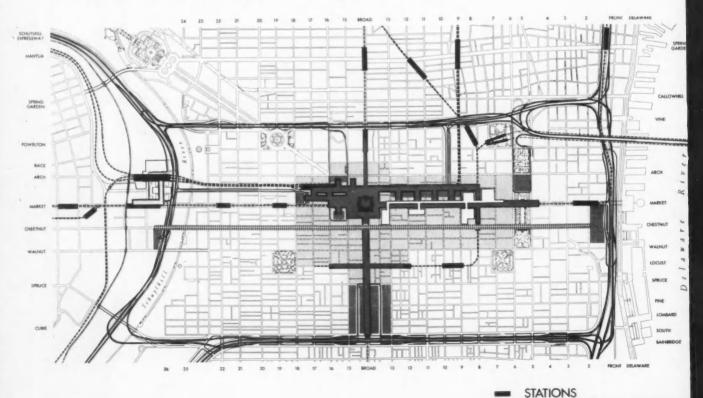
#### DOWNTOWN PHILADELPHIA: THE OVERALL PLAN

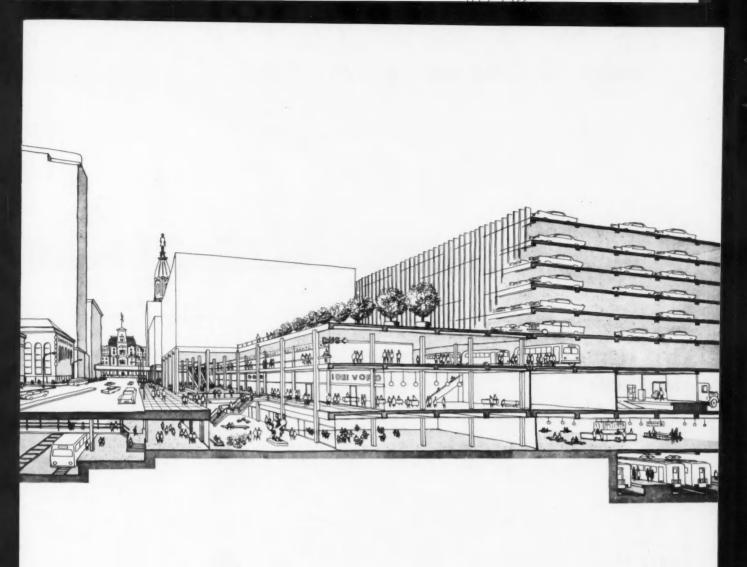
Although several of its elements had been sketched out long before, the mature form of the center city plan was arrived at only after fourteen years of design and development involving many people. The structure is now very clear in both a functional and architectural sense.

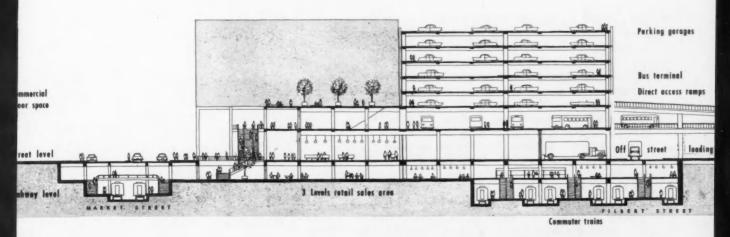
The decision was made not to try to fight the automobile, a losing battle at best, but to treat it as an honored guest and cater to its needs. The separation of the pedestrian from it, accomplished in Society Hill two-dimensionally by the footpaths in the middle of blocks, was achieved in the more crowded central areas by developing for foot circulation continuous areas above and below level. Only on Chestnut Street are the automobiles to be removed and replaced by light electric trolleys moving directly into terminal parking garages (indicated in plan by cross hatched pattern) where Chestnut Street meets the two expressways.

The green area shows the planned extension to the south of the lower level pedestrian superblock already built in Penn Center to the west. The extension will connect with the underground parking garage adjacent to the crosstown expressway, and east into the main shopping area. Here it lies between and connects the underground commuter railroad loop (indicated in plan by a wide dashed line). and the rebuilt Market Street subway stations. These will open into the courts and gardens created in the lower level superblock. (Subway lines are shown in plan by a narrow dashed line.) The white area shows the shopping promenade, an elevated sidewalk connecting directly with second floors of the five great department stores. Adjacent to the shopping promenade is the local and long haul bus terminal above which is a parking garage, both served by ramps which connect directly with the regional expressways. The plans of the various levels are shown on pages 142 and 143.

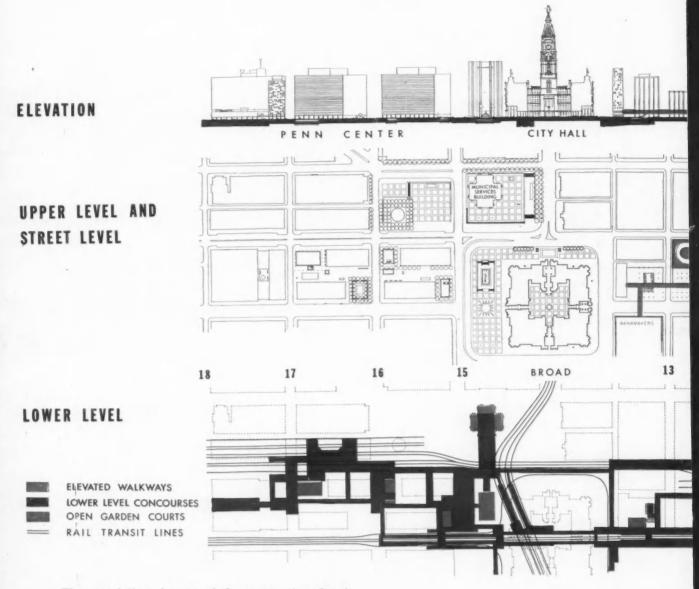
The sectional drawings on the opposite page show Market East as a transportation mechanism, tying all the modes together, and, more important, providing a decent entrance to center city for those who use them.





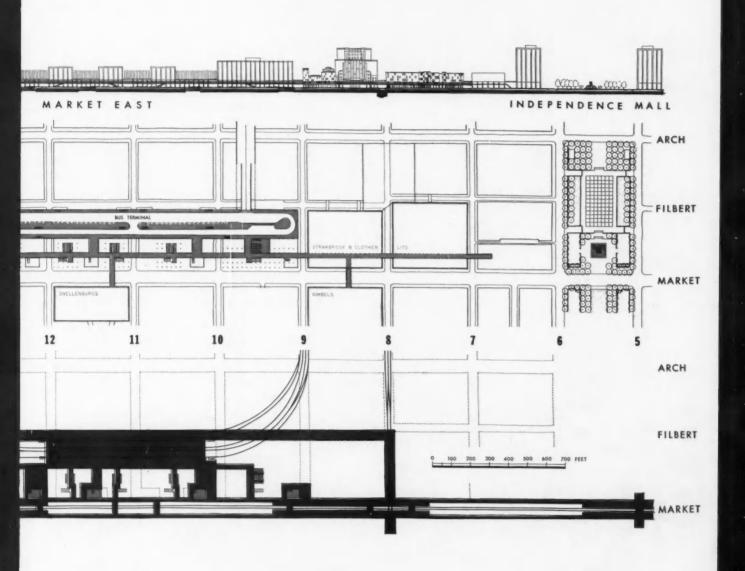


#### DOWNTOWN PHILADELPHIA: MARKET EAST

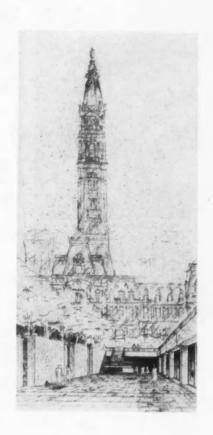


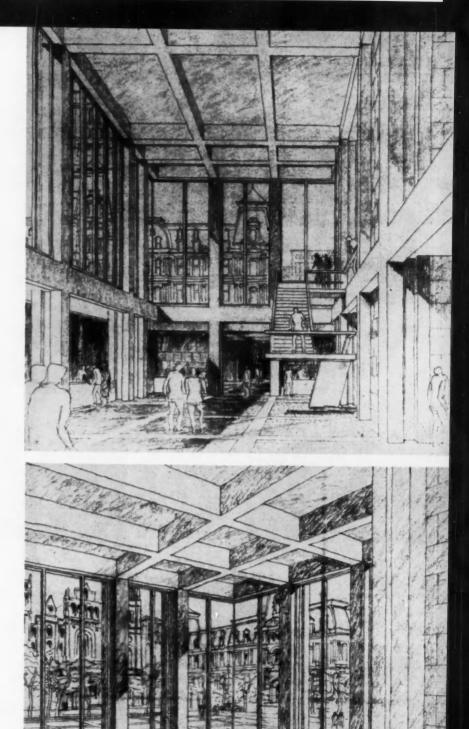
The completing element of the center city plan is Market East shown between the now finished Penn Center to the west and Independence Mall to the east. This comparatively small but intense project binds all parts of the plan into a cohesive whole. It depresents a resolution of regional forces into a three dimensional system of space organization. This is not architecture as customarily practiced, nor planning as it is usually done. It is a statement of a program to achieve planning objectives and a frame of reference within which the architect will function.

I must add that although the staff of the Philadelphia Planning Commission has worked with consultants on many other parts of the plan for downtown Philadelphia, Market East is entirely our work.

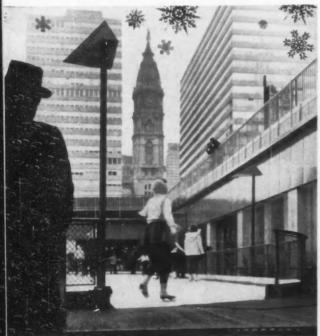








#### TODAY: PENN CENTER COMPLETED





Lewis-Claire Studio

And so parts of the plan are getting built. This is the essential ingredient lacking in so many of the grandiose plans that are stillborn. The planner must learn from the architect and the client, the architect from the demonstrated scope of vision of the planner, the developer from the work of other developers, and the government officials, the newspapers and the community at large from what they see rising about them, the whole brought to life by the heat of the tensions of construction.

But all this is foredoomed to failure unless there is an underlying design structure of a force and clarity capable of influencing action, and the skill and will in government to produce, modify and extend this structure so that it is continually alive, and to support and protection are needed.

AUTHOR'S NOTE: Because of space limitation many important people, organizations and facts had to be left out. To those concerned, my apologies.





#### ARCHITECT'S NOTABLE INTERIORS FOR PHILANTHROPIC ORGANIZATION

The Rockefeller Foundation New York City

ARCHITECTS: Carson, Lundin & Shaw

MECHANICAL ENGINEERS: Syska & Hennessy

STRUCTURAL ENGINEERS: Edwards & Hjorth

CONTRACTOR: George A. Fuller Co.

The well-planned and attractive spaces that make up the Rockefeller Foundation headquarters offer further convincing testimony that architects can be counted on to do a job of this kind exceedingly well. The problem was to design and furnish two floors in the newest of the Rockefeller Center buildings; one floor to serve as executive and secretarial quarters, the other as accompanying service area (treasurer, purchasing, shipping, travel, personnel, library, publications, lunch room, switchboard, etc.).

After arriving at a plan that works, the real trick in successfully designing a project such as this is to come up with interior treatments that create a character appropriate to the client. In this case the effect is properly restrained but not austere; dignified yet interestingly varied. Teakwood, white marble, travertine, off-white hangings, and muted floor coverings set the general tone—which is enlivened here and there by carefully placed accents of bold color. Details have been carefully studied to give spaces a simple, clean, uncluttered look.

The Rockefeller Foundation was chartered in 1913, and endowed by John D. Rockefeller. Its broad objective is to promote the well-being of mankind through the advancement of knowledge and its effective application. Shown above: the president's office as one enters.

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Main reception area has a mineral tile ceiling with inset teak strips; white marble floor; blue carpet; tobacco brown vinyl wall covering; teak desk, table, and chairs; off-white hangings; natural white sofa; green upholstered lounge chairs

#### Architect's Interiors: The Rockefeller Foundation



Committee room has a mineral tile ceiling; walls of teak, travertine, or bottle green burlap; beige carpeting; teak table



Committee room lounge has built-in TV and Hi-Fi; adjoinin meeting room has concealed blackboard and projection scree

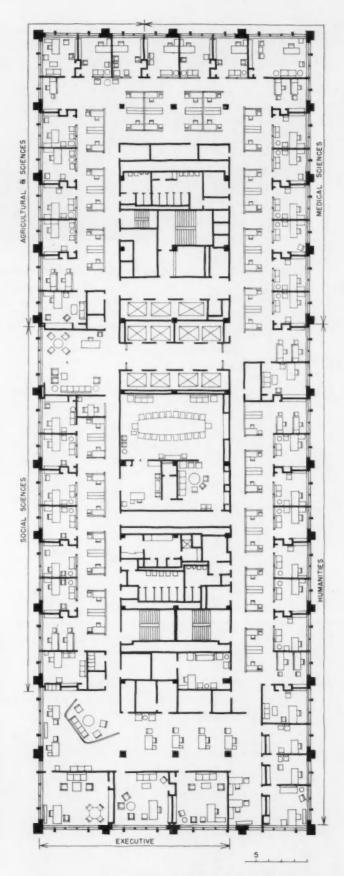


The executive reception area is defined by a floor to ceiling curved travertine screen; the sofa is vivid red; lounge chairs white

The plan of the executive floor at right shows how offices for the five major divisions (administration, medical and natural sciences, social sciences, and humanities) occupy the perimeter of the floor; while the committee (and board) meeting room and lounge are at the center of the plan; the main reception room adjoins the elevators; and the executive reception area is located near the bottom (eastern end) of the plan to serve the administrative offices, which overlook nearby Rockefeller Plaza.



President's office has green carpeting; teak desk, cabinets and table; red leather lounge chairs; white conference chairs

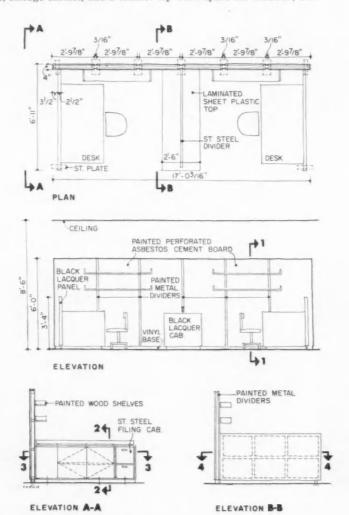




#### Architect's Interiors: The Rockefeller Foundation

The secretaries are located adjacent to the officers, in L-shaped galleries which extend out to window walls. Obscure glass and teak walls separate private offices.

Each secretary occupies a space equivalent to a small office, the details of which are shown on this page. Pandanus covered screens, 5 ft 6 in. high, define two such units; each secretary has a desk, visitor's chair, book shelves, 2-drawer file, storage cabinet, and a counter-top work space for collation, etc.



PAINTED METAL
2" SOUND
BLANKET

WOOD SHELVES

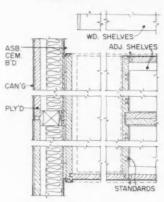
1/4" ASP CEM B'D

VINYL
BASE

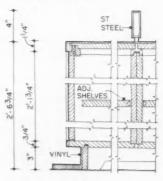
O

TO ROUGH SLAB

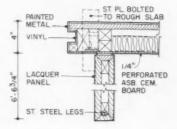
SECTION 1-1



SECTION 2-2



SECTION 3-3



SECTION 4-4

## DESIGN FOR CONVENIENT BANKING

First National Bank of Minneapolis

ARCHITECTS: Holabird & Root
ASSOCIATE ARCHITECTS: Thorshov & Cerny, Inc.

CONTRACTORS: Naugle-Leck, Inc.





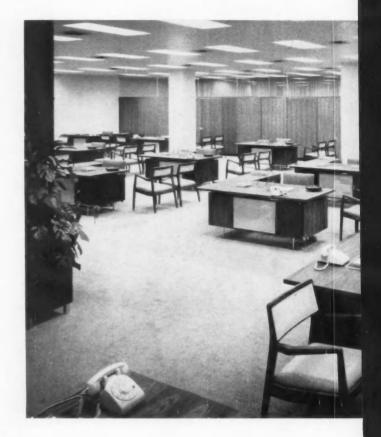
Warren Reynolds, Infinity, Inc. photos

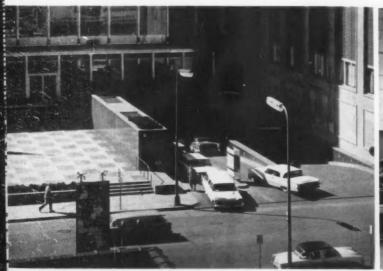
#### Bank—planned efficiency and convenience saves tin

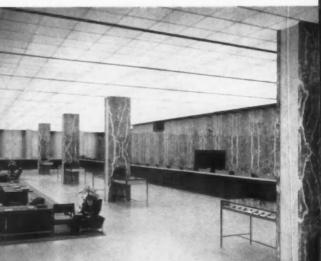
The officials of this bank say that the most important single factor in attracting customers to a commercial bank is convenience.

The architects of the building have managed to provide a high degree of convenience for the bank's customers and, in addition, provide for employe convenience and efficiency of operations. In the five story banking wing, 92 per cent of all customers complete their business on the ground floor. For those who prefer drive-in banking, there is a below grade parking garage, with tellers' windows. All of the bank departments are functionally related to each other. Those on the upper floors are in close proximity to the elevators. The elevators themselves are centrally located for convenience.

The bank officials say that efficient planning saves the bank more than \$100,000 a year in operating costs, in addition to the incalculable savings in time and effort. Part of this is due to the careful study of departmental relationships in the design. Other important factors are the efficient vertical transportation for securities, cash, and the like and the separate elevators for employe use. All employe circulation is separated from that of customers and the tenants of the office tower.







152 ARCHITECTURAL RECORD May 1961

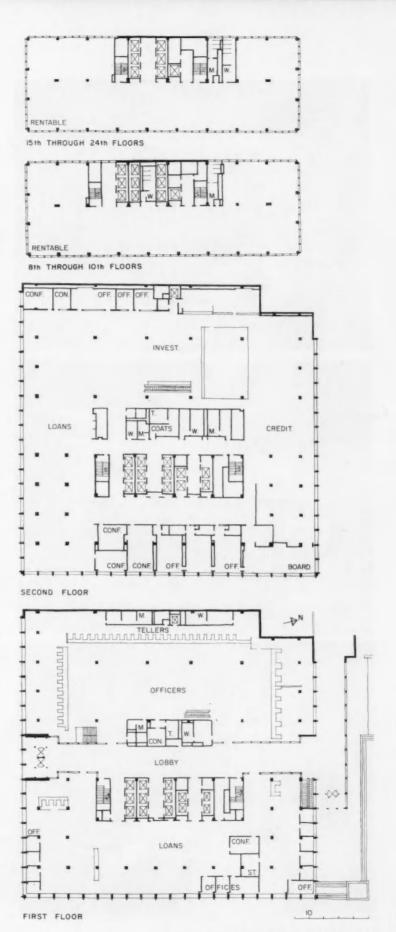
#### nd money in operation



#### Minneapolis Bank

At the left is a view of the open and spacious plaza located at the main entrance to the building. At the right, in this view, is the entrance to the below grade parking garage and drive-in facilities. The adjacent view shows the treatment of the main banking floors with the tellers' counters in the background and the officers' area at the extreme left. This entire floor has been kept uncluttered and open for free-flowing circulation of customers between the various departments. The view above shows a typical banking area on an upper floor.

In the plans may be seen the relationships between the first two bank floors and typical office tower floors. The third floor of the bank is devoted mainly to units of the trust department, the fourth entirely to space for machine processing operations, the fifth to ancillary spaces such as a 300 seat auditorium, an employe cafeteria, and the like











#### Minneapolis Bank

At the top is shown the entrance to the bank vault area. The vault, located on a lower level, is directly connected with all banking departments requiring access to it by a special elevator and a conveyor system. Below the vault is shown a view of the auditorium, used for meetings, forums, and the like. At the lower left is a typical bank official's office. Directly above is a view of the board room. The building structure is steel frame with cellular steel-concrete fill floors, except service core which has reinforced concrete floors. The exterior walls are stainless steel and plate glass on the bank wing, aluminum and plate glass in the office tower. Floors are terrazzo, or asphalt tile, ceramic or quarry tile, marble, or carpeting over concrete. Ceilings are acoustically treated with metal pans or mineral fiber board. Many interior partitions are movable

# PROTOTYPE HOSPITAL— FALLOUT PROTECTED

Prepared By
Architectural and Engineering Branch,
Division of Hospital and Medical Facilities,
Public Health Service, in collaboration with
Office of Civil and Defense Mobilization

Associated on the project were: Robert W. Hegardt, Architectural Consultant Peter W. Bruder, Engineering Consultant Armour Research Foundation, Blast Consultant The National Shelter Policy, announced by the Office of Civil and Defense Administration in 1958, states as follows, "The Administration has conducted exhaustive studies and tests with respect to protective measures to safeguard our citizens against the effects of nuclear weapons. These several analyses have indicated that there is a great potential for the saving of life by fallout shelters. In the event of nuclear attack on this country, fallout shelters offer the best single nonmilitary defense measure for the protection of the greatest number of our people."

"The Administration's national civil defense policy, which now includes planning for the movement of people from target areas if time permits, will now also include the use of shelters to provide protection from radioactive fallout."

To implement this established policy, the Public Health Service has collaborated with Office of Civil and Defense Mobilization to develop criteria and standards for protective measures in hospitals.

#### PROTECTION PLANNING

A prototype hospital of 150 beds was selected as a basis of design because it is typical of the size likely to be built in the periphery of an urban community or in the distant suburbs of a potential target area. Because of its location, the hospital would be spared the destructive effect of blast and heat but could be subject to some fallout radiation. It was also felt that the 150 bed hospital would be the optimum size for presenting the complex normal problems of department relationships, traffic, and communications in conjunction with the essential features of shelter without obscuring the obvious characteristics of either. A fundamental requirement was that the protective measures must in no way impair the normal functional aspects of the hospital design. Therefore, the resulting design would be useful as a guide for planning a hospital with varying degrees of protection, from maximum to minimum, depending upon the determination of the community's civil defense program.

#### FUNCTIONAL ASPECTS

This project presents a sound basic hospital of 150 beds designed to serve the needs of an average American community. It demonstrates that protective measures against fallout can be incorporated in the planning and construction of hospital buildings at reasonable cost without sacrifice of functional or operational requirements.

The hospital is basically composed of a protected unit and an unprotected unit joined by a circulation unit containing connecting corridors and elevators.

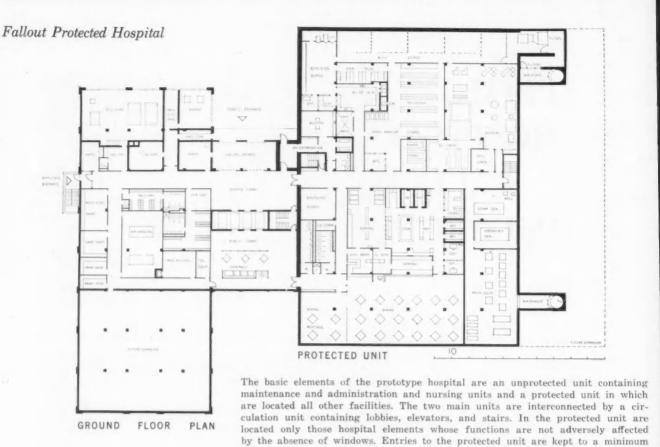
The protected unit contains only those elements whose function or use would not be jeopardized, in any manner, by being located in a windowless environment. For example, the concept of placing clinical and diagnostic areas in a windowless structure is already widely accepted as an efficient planning arrangement. Similarly, the service facilities, central sterilizing and supply, stores, laundry, and dietary are located on the lower floor of the protected unit in a manner consistent with normal practice. These areas provide ample space for the maximum population of the hospital and, in fact, will permit limited shelter capability for others commensurate with the requirements of the community civil defense plans.

Since the administrative areas are closely interrelated with the main entrance and lobbies which are generally





Model: Theodore Conrad



arranged for easy access from the street, these areas are placed in the unprotected unit of conventional construction. The nursing units are similarly located because of present building code requirements as well as widespread public prejudice against windowless patient rooms.

For shielding purposes, access openings into the protected unit are limited to the minimum necessary for functional use. On the first floor, the outpatient department has ready access to x-ray, pharmacy, laboratory and physical therapy. The other entrance is limited to staff and inpatients and leads to surgery, obstetrics and the clinical services common to the outpatients. In like manner, the lower floor has a public entrance to the dining facilities and a separate door for service and housekeeping functions.

During the period of fallout emergency, all main doors to the protected unit will be closed and access to and egress from this structure, if necessary, will be via the autopsy and morgue. This is arranged with air locks and suitable washing facilities to permit the decontamination of individuals who may have been subjected to the fallout environment.

The site plan is designed to separate service traffic from staff, employes, and visitors. Convenient parking is provided for visitors near the main entrance and the overflow, if any, can be accommodated in the main employes and staff parking area at the side. The judicious use of landscaping and tree plantings serve to minimize street noise and dust as well as improve the view of the hospital occupants.

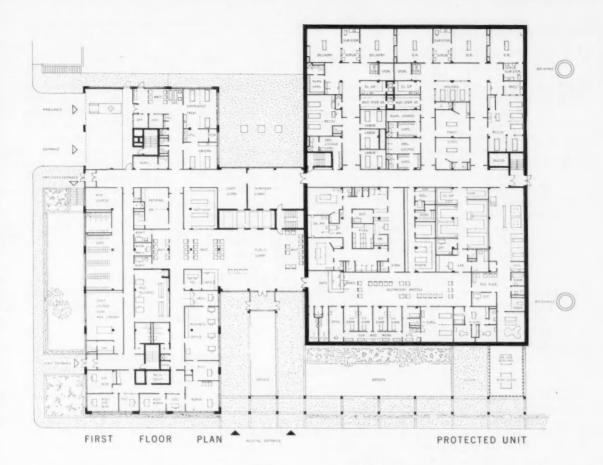
Flexibility to permit expansion was seriously considered in this plan. The dotted lines on the plans of the protected unit indicate logical directions for increasing the clinical and service departments, and this construction may be protected or unprotected as deemed necessary. The surgery department could be expanded into the obstetrics area which could be placed on the second floor of the protected unit along with a future maternity and nursery department. Additional medical and surgical nursing units could be constructed over the new obstetrics unit as well as over the existing nursing units.

#### SHELTER SPACE

In the event of nuclear attack, under normal weather conditions, significant amounts of fallout do not arrive outside the blast area earlier than about one-half hour after the explosion. It is reasonable, therefore, to assume that a hospital (if located outside the blast area) would have some time to prepare for the fallout emergency if promptly notified of a nuclear attack.

Upon such warning, all patients, staff, and others in the unprotected wing of the hospital would be evacuated to the protected area. The door closures, consisting of loose keyed masonry blocks, would be arranged to seal the door openings. The mechanical and electrical systems would be switched on to the predesigned civil defense emergency operating condition, and sufficient cots would be set up to accommodate the number of persons to be sheltered. Based on civil defense criteria, it is assumed that the fallout emergency situation may last as long as two weeks and sufficient food, fuel and other supplies should be stored for this time interval.

Since an attack may occur at any time, the hospital should be prepared to act without undue delay and be able to provide, at least, shelter accommodations for all individuals within the hospital at the time of the alert. The peak population of a 150 bed general hospital is estimated to be 363 and this would serve as an indica-



tion of the minimum arrangements that should be provided. The hospital plan selected would also influence the extent of the protected area. On this project, for example, it is possible to protect the entire clinical-diagnostic-service unit and to accommodate a total of about 750 people at little additional cost over the amount required to provide protection for the bare minimum population. This additional capacity could be an important adjunct to the community civil defense program by providing the capability for sheltering additional hospital and medical personnel and the public.

#### SHIELDING

Utilizing the principles outlined in this project, any degree of protection from fallout radiation commensurate with the community civil defense plan can be incorporated in the hospital design. The specific shielding requirements for a particular hospital should be evaluated by the local authorities on the basis of its location with respect to probable target areas, direction of prevailing winds, potential for evacuation, and other civil defense oriented factors.

For this study project, a radiation protection factor of 1000 was adopted for the protected unit. This means that radiation intensity within the building is reduced to 1/1000 of the radiation level outside. This would be adequate for the heaviest fallout areas. As a result, the exposed wall construction is equivalent to a mass thickness of 315 pounds per square foot (about 20 inches of concrete). If a lesser shielding value is selected, a lesser thickness of wall and roof construction would then be required. Since the requirements other than shielding (i.e., mechanical, electrical, and architectural) will be the same for all degrees of fallout protection; it is readily apparent that

the protection capability is controlled by the amount of shielding provided. Because small increases in mass thicknesses produce large increases in shielding and are comparatively inexpensive, the ultimate cost of better protection from fallout is insignificant.

A vital factor in obtaining a reasonably uniform shielding value throughout the protected unit is to plan it with as few openings to the outside as possible. It is difficult to protect doors, windows, stair towers, elevator shafts and similarly large openings with any efficiency. A circuitous entrance pattern or maze will reduce radiation penetration (although not to the same extent as a direct closure) but does impose the problem of hindering traffic flow. Direct closures of exterior wall openings by temporary baffle walls or massive doors, on the other hand, can be made as effective as the basic wall construction without affecting traffic in any way.

Since efficient traffic patterns are a functional requirement in hospital planning, it is recommended that the direct closures of exterior wall openings be used. Temporary baffle walls are more practical from an economic point of view when a high degree of shielding is specified, and were, therefore, used in this study project. Heavy doors would be more suitable when the specified radiation reduction factor is of a low order.

The elevator and stair shafts were removed from the protected unit without sacrificing hospital function, thereby eliminating the need for any protective measures in connection with these elements.

### SLEEPING

Single cots are provided for the critically ill patients whose medical condition indicates the need for intensive nursing care. The remaining patients would be assigned to double-deck cots near the intensive care patients.

The administrative staff of the hospital would be on call around the clock during the shelter emergency, and it is recommended that they be assigned permanent spaces in double deck cots. All other non-patients would be organized on a three-shift per day program of work-rest-sleep and three persons would be assigned to each double-deck bunk unit for sleeping purposes. This would tend to eliminate the 'hot bunk' problem without requiring excessive sleeping accommodations. Bedding (a sheet or unlined sleeping bag) would be furnished each occupant in a kit that would also contain a number of indispensable hygiene items.

#### FOOD

Since the dietary department including food stores is in the protected unit, all food reserves in the hospital at the beginning of the alert would be available for use during the civil defense emergency. Under an average hospital's normal purchasing policy, this stock of food supplies, when rationed to the shelter occupants at subsistence levels, might last as long as a week. This means that prepacked food rations, strictly for emergency use, would then have to be furnished for only another week. Cooking would be kept to a minimum, being limited to soups and beverages warmed on the electric cooking appliances.

For maximum utilization of working personnel and facilities within a normal three meals per day schedule, food can be served every six hours around the clock as indicated on the shelter operational chart. Except for bedridden patients, cafeteria style serving lines using single service paper plates and cups are recommended if sufficient water is not available for washing dishes.

### ELECTRIC POWER

Electric service for a protected hospital of the type described herein operates in the same manner as for an ordinary nonprotected hospital. Occasional interruption of the utility service is expected for any hospital during the normal course of time and events. An emergency electric service, usually of limited capacity, is required for all hospitals to assure continuity of critical functions within the hospital. Many public utility service facilities will not be protected against fallout radiation; hence it must be assumed that such services will not be available during such an emergency. Accordingly, emergency electric generating facilities must be installed in the protected sections of the hospital and must be of sufficient capacity and have the correct electrical characteristics for operation of the selected lighting, pumps, fans and other essential motorized equipment, and for cooking or warming food. A supply of fuel and lubricants for operation of the generating unit at full load continuously for not less than two weeks should be provided.

This hospital is divided into two principal sections, one section protected against fallout radiation, the other an unprotected section. During an ordinary interruption of the utility service, the emergency service would be connected in both the protected and the unprotected sections. During fallout conditions, the emergency service would be disconnected from the unprotected section. The emergency electric capacity thus saved could then be applied in the protected section to operate additional equipment not emergency operated during an ordinary short time interruption of the normal utility service. It is expected

that the emergency power capacity required for operation of the protected section alone, under fallout conditions, would be approximately equal to the total required for operating both protected and unprotected sections during ordinary short-time interruptions of utility service.

In both the protected and the unprotected sections of the hospital, the selected lighting circuits should be automatically connected to the emergency service when the normal service is interrupted, but motors, except fractional horsepower motors, should be arranged for manual starting in such a sequential manner as not to overload the generator. Overload protection of feeders should be so provided that an internal fault in one section of the hospital will not cause an interruption of service in any of the other sections.

It is recommended that consideration be given to providing circuitry to permit convenience of alternately operating certain equipment and also for possible future connection of additional generating capacity.

#### AIR

The normal air components for physical comfort and well being with which we are primarily concerned are oxygen, carbon dioxide and water vapor. However, not to be overlooked in the overall planning are such toxic, noxious, and pathogenic constituents as: chemical, biological and radiological warfare agents, carbon monoxide, combustible gases and odorous substance.

The capacity of the air conditioning system provided for the average modern hospital will usually exceed the requirements for shelters. However, certain modifications are required to adapt the system for shelter use. Air purity, temperature and humidity must be kept at suitable levels during the emergency. The totally enclosed nature of the shelter spaces and their comparatively high occupancy during the emergency means that air conditioning including cooling will be a requirement in most areas of the United States.

Temperature and humidity must be maintained within reasonable comfort levels, particularly for the benefit of hospital patients. Effective temperature, which is an arbitrary index representing the effect of warmth or cold felt by the human body is the best available index of ambient atmospheric conditions in relation to the physiological response of man. An effective temperature not to exceed 75° is recommended for hospital shelter areas. This provides a range of temperatures and humidities somewhat above normal design practice for comfort but well within tolerable limits.

Although the broad emphasis has been placed upon fallout protection, it is strongly recommended that sufficient space should be provided and the design of the ventilation system should permit the installation of a combined chemical, biological and radiological (CBR) filter unit. The system should be designed to permit the bypassing of all outdoor air through the CBR filter unit during the emergency to provide additional protection by removing gas and bacteriological warfare elements.

In view of the space requirements of the CBR filter units, it may be desirable to hold the introduction of outdoor ventilation air to a minimum.

Oxygen and carbon dioxide must be maintained at suitable levels. This may be accomplished by the introduction of outdoor air. Oxygen replenishment from normally stored supplies is not recommended for emergency periods,

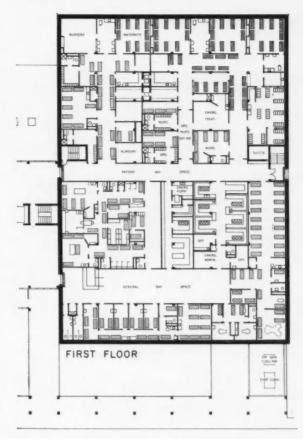


In the event of a nuclear attack, all patients and others in unprotected wing would be evacuated to the protected unit. Loosely keyed masonry would be used to seal the door openings. The plans indicate projected arrangement of cots for sleeping

although if available, should not be overlooked as a reserve resource. Absorption or closed regenerative systems are not recommended for maintenance of oxygen and carbon dioxide levels when outdoor air is available.

Minimum outdoor air ventilation rates to maintain suitable levels of oxygen and carbon dioxide are dependent upon the per capita space allotment of the shelter area. The accepted rate for mass public shelters is 3 cfm per occupant, for normally healthy persons. However, because of the physical condition of many of the occupants of the hospital shelter and because of the specific ventilation requirements of certain clinical areas, which may be active during the emergency, a minimum of 5 cfm per person of outdoor air is recommended for hospital shelters. Higher ventilation rates are desirable to provide greater flexibility in controlling the air pressurization of the shelter area which is necessary as a protection against the infiltration of contaminants. Higher ventilation rates will also contribute to odor control. Where the air supply is limited to the minimum, activated charcoal filters installed in the ventilation system are recommended for

Good hospital design assumes good filters in the normal outdoor air intake ventilation systems. Filters with a minimum of 80 per cent efficiency according to the National Bureau of Standards "Dust Spot Method" of testing offer ample protection against radiological fallout particles. An abrupt change of direction of air flow after entering the intake and prior to the filters will materially aid in deposition of large contaminated particles, thus reducing the filter load. As the deposition chamber and the filters may become highly contaminated with radiological particles, it is mandatory that a protective barrier be interposed between them and the shelter area.



To maintain the boiler and electric generator rooms uncontaminated for the operating and maintenance personnel while supplying combustion air for this equipment, normal exhaust air from selected areas within the shelter may be bypassed through these rooms.

As no filters have been devised which will remove carbon monoxide, it is important that outdoor air inlets be remotely located from any possible source of fire such as adjacent combustible buildings.

Evaporative condensers are recommended for the discharge of heat from the shelter air conditioning system to eliminate any possibility of carrying radioactive contaminants into the shelter through the cooling system.

#### WATER SUPPLY

Because of the possibility of radiological contamination of public sources of water supply such as impounded reservoirs, rivers and water sheds, and because of the possible destruction or contamination of community distribution lines, it is essential that a reliable source of water be provided for the emergency. Ground water, which is available in a large part of the country, offers a ready solution to the problem, in that wells can be developed within the shelter area.

A well, in addition to providing safe water may eliminate the need for restricting water usage for domestic purposes. Where the water from a well source is not potable, consideration should be given to its use for sanitary purposes such as cleaning, toilet flushing, etc. In this case, storage must be provided for a minimum of 1 gallon of potable water per occupant per day. This storage must be placed in series in the regular distribution lines to insure continuous turnover of the water so that it will be fresh at the beginning of the emergency.

#### HEATING

Boiler rooms are usually designed with large windows and other openings to provide light and ventilation. These openings make the boiler room a particularly hazardous and untenable area in case of radioactive fallout. Proper operation and maintenance of this vital equipment may be impossible under certain fallout conditions. (Unprotected public utility services may suffer from similar circumstances.) For this reason, an emergency source of heat must be provided. There are two methods of providing this heat which merit investigation: (1) diesel engine electric generator heat loss recovery and, (2) a small emergency boiler. Of the two heat sources, the boiler is more adaptable to hospital operation. Under usual conditions it is recommended a small high pressure boiler be installed within the protected area for use during the emergency period. Some designs may lend themselves to a normal usage of this boiler, but for economy in design and operation, under most circumstances, this boiler would serve only for the emergency period. The capacity of the boiler should be kept to a minimum to serve only those vital functions required during the emergency, such as: space heating, water heating, and operating a sterilizer

Because of the high density population and the confined nature of the shelter area, space heating regardless of the season will be a minimal load. Heating requirements will usually be supplied through the ventilation system. The hot water load will depend upon the availability of a water supply and may therefore vary in different areas of the country. Where water supply is dependent upon hospital storage facilities, austerity will be invoked and the boiler load will probably be considerably less than where a well water supply is available. During the period of confinement, it is anticipated that sterilization needs will be taken care of by one pressure sterilizer.

Oil is recommended as the emergency period fuel because of the ease of storage of an ample supply for the emergency period and because it eliminates dependence upon an outside source of supply. Where a boiler is installed solely for use during the emergency, consideration should be given to combining the storage of boiler and the emergency electric generator fuel oils. This would provide some turnover of the stored oil and place it under more constant supervision.

#### SANITATION

Provision for the disposal of rubbish and human waste must be carefully planned. A certain amount of rubbish in the form of garbage, heavy cartons, bottles and cans will pose the greatest problem. The use of garbage grinders for the disposal of food waste and the use of incinerators for the disposal of food waste and rubbish should be explored. However, garbage grinders are dependent upon an ample supply of water and incineration is not effective for bottles and cans. A rubbish storage room located within or adjacent to the decontamination area offers a solution to the problem. In this plan, the autopsy room has been selected for this purpose. This area will not be a part of the general circulation area for the population, and storage there would not be objectionable. It is anticipated that as outdoor levels of radiation intensity decrease, it will be possible to periodically remove the accumulation of waste materials to the outdoors.

#### PLUMBING

The plumbing system for the hospital shelter area poses no particular design problems. Where the shelter area is a part of the normal hospital, water, sewer, gas, oxygen and other service distribution systems will serve both the shelter and the non-protected portions of the hospital. In such cases, in so far as possible, a grouping of these systems at one point of entry to the shelter area with cut-off valves within the shelter, will facilitate shutting off these services to the unused portion of the hospital, if necessary at the time of the emergency. Where a well is available, the normal water distribution system will be cross-connected with the well system.

Where well sources are available, the use of flushing type fixtures is recommended for human waste. Chemical type toilets will usually be required in situations where no well source is available and it is necessary to store potable water.

Toilet facilities for hospital shelters are recommended as follows: Water Closets—1 for each 25 patients and 1 for each 35 non-patients, Lavatories—1 for each 35 persons, Shower Baths—1 for each 60 patients and 1 for each 120 non-patients.

Because local sewage disposal facilities may not be protected against radiation and therefore may not be staffed or in operation during the emergency, it is necessary to provide a means for removal of sewage. For this purpose, it is recommended that a bypass from the normal building drain be made to a sewage sump within the shelter from which sewage may be pumped to the outside. Where chemical toilets are required, their contents may be periodically disposed of through the sewage sump.

Leaders for conducting rain water from roof surfaces should not pass through the shelter area because of the danger of creating hot spots in the conductor system in case of rain during the emergency.

#### COST

A major objective of this study is to demonstrate that protective measures against fallout can be incorporated in the planning and construction of hospital buildings at reasonable cost. Although true cost figures are singularly elusive under normal circumstances, they tend to be particularly so in a study where comparative costs must be determined without benefit of definitive contract prices. However, preliminary construction cost estimates, based on mid-1960 costs in the New York City area, have been completed and indicate that the cost of constructing the prototype hospital incorporating protective measures as described herein would probably be in the range of three to five percent more than the cost of a similarly planned hospital of conventional construction that would be completely air conditioned.

The low cost can be attributed to a number of factors:

1. Little additional space is required solely for protective purposes. Only space for the storage of emergency supplies (food, cots, etc.), civil defense communications, emergency boiler, air intake and filter, and air exhaust is in excess of normal hospital requirements.

2. Little additional equipment is required solely for protective purposes because a hospital is well supplied with mechanical and electrical equipment that is readily convertible for shelter use.

3. The hospital areas involved permit a high degree of efficiency in providing maximum shelter capability.



Julius Shulman

# HILLSIDE POST AND BEAM HOUSE FOR \$21,650

OWNERS: Mr. and Mrs. Robert Addison

LOCATION: Ventura, California

ARCHITECT: Carl Maston CONTRACTOR: H. N. Weeks



Julius Shulman

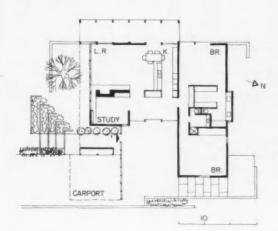
### Addison House

This extremely pleasant and economical house was faced with the restricting requirement, for a small hillside lot, of avoiding any steps between garage, and the inside or outside living areas. Other program needs included a desire for very informal living with a maximum of convenience and freedom from maintenance cares; independent and outside access for a room for two college-age sons; and an outside living area on the leeward side of the house.

All this was deftly incorporated in the plan for the relatively modest cost of \$21,-650 for a house of 1950 sq ft. The structure is a simple, and regular, Douglas Fir post and beam system, which becomes a dominant design element of the house, and serves to integrate the inner courtyard and the living room balcony unusually well with the house. This is also true of the carport.

The framing system employs 3 by 12 in. beams on 6-ft centers; these support 2 by 4 joists and plaster ceilings inside, and transite roof panels over the garage. The outside posts or "vertical returns" of the beams allows for installation of slatted blinds between them for sun control on the West.

Foundation and garden walls are concrete block. Exteriors are redwood with an oil finish. Inside, most walls and ceilings are plaster, and floors cork tile on plywood. Exceptions are lacquered walnut walls in living area and vinyl tile bath floors.











### Addison House



The openness of the interior living areas, and their close relationship with the inner courtyard make the house seem unusually spacious. The handling of the study (below left) and the kitchen (above and top right) also add to this effect. In the study, a sliding wall joins it with the entrance and living areas, and the same brick floor of the terrace and entry is continued here (see large photo on preceding page). The kitchen opens directly to the living area over a furniture-like counter; the area above the counter can be closed by a folding half-partition. The glass walls overlook the Pacific Ocean and the Channel Islands. The sash in living area and kitchen are sliding. Heating is by a forced warm air system.

Julius Shulman

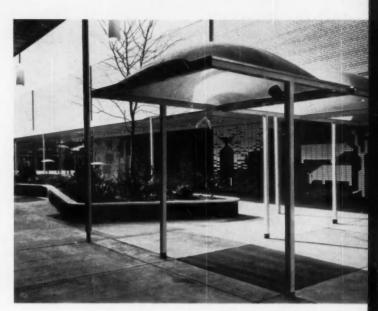
## FACILITIES FOR RETAILING

BUILDING TYPES STUDY 294

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Above: Whirling Dervishes—6-ft metal sculpture by Nathaniel Kaz. At right: mall next to the Federal department store; glazed brick mural by Richard Jennings



## FESTIVE ATMOSPHERE HELPS SALES

In discussing Wonderland—
one of the seven retailing facilities
presented in this study—
architect Redstone explains how
mall design and related arts
create a sprightly and
colorful shopping environment



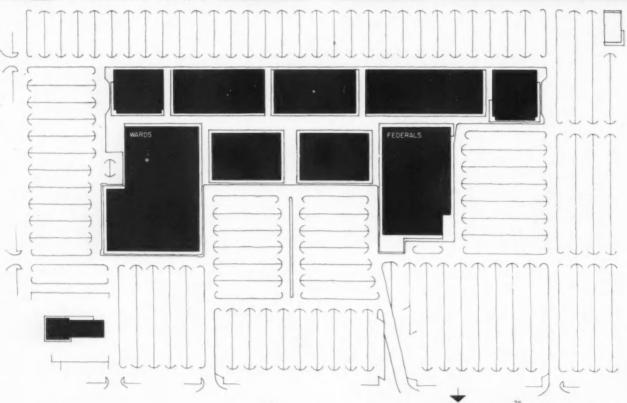
The Rooster-6-ft metal sculpture by Donald Buby

WONDERLAND REGIONAL SHOPPING CENTER LIVONIA, MICHIGAN

by Louis G. Redstone, A.I.A.

A basic design goal for this center was to bring about a festive and colorful environment; to create a marketplace that would make shopping a gayer, more interesting experience set in sprightly, goodnatured, attractive surroundings. Merchandising experts tell us that dollars come out of womens' purses more readily in such an atmosphere; and return visits will of course be more frequent when the center has the power to amuse or attract both children and grownups. In carrying out this concept, two factors played a large role: the proportions, scale, and character of the malls and sheltered crosswalks; and the extensive use of the related arts, i.e., mural decoration, sculpture, planting, fountains, graphics, etc. The fact that many people visit the center for browsing as well as shopping-even on Sundays, when stores are closed-proves the validity of the idea. Wonderland may well emerge as the center for a wide variety of social and recreational activities in the area, and may soon become an important hub of the city. A recreational center and professional offices for the center are now in preliminary design.





ARCHITECTS: Louis G. Redstone; Avner Naggar, Associate Architect; The late Allan G. Agree, Associate Architect Participating Staff: Bernard W. Colton, Coordinator; Samuel Hack, Mechanical; Albert E. Lawrence, Structural Landscape Architects: Eichstedt-Johnson Associates

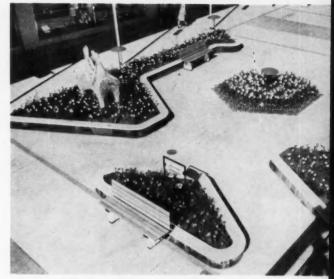
CONTRACTORS: Walter L. Couse & Co., General Work; Perron Construction Co., Montgomery Ward store



Mall near Federal department store



The Orientation Center



Shaped landscaped areas in main mall

#### The Plan

The plan is based on the idea of a magnet, or anchor, at each end of the complex. The two principal tenants, Montgomery Ward and the Federal Department Store, occupy the anchor positions. Added interest and strength is given to the Federal portion of the plan by the introduction of an arcade building, which provides space for various service and specialty stores such as barber, beauty shop, shoe repair, flower shop, etc. This building also houses the auditorium and the center's offices.

In order to attract the shopper to other tenants, a "T" shaped main mall was introduced leading the shopper past these stores, before proceeding to either of the major department stores. This "T" mall is visually extended into the main parking area through a covered landscaped walk. Added directional incentive was gained by reversing the parking pattern perpendicular to the walk. This walk originates at the "Spike", a 75 ft steel landmark dominating the main approach.

#### Shopping Environment: The Malls

In the search for proper scale and a comfortable shopping environment in the malls, the open spaces between buildings were very carefully studied. The width of 64 ft for the main "T" mall gives the shopper the proper feeling of intimacy, not so large that he loses identity, yet wide enough for effective commercial displays. The narrower 30 and 40 ft malls opposed to the interplay of solid walls versus canopied fronts creates effective visual contrasts. The proportions of the malls were studied in relation to building heights; spatial divisions were defined by cross-overs, orientation shelters and landscaped area. The result is a changing series of visual experiences, in size, in shape, in color, in material, in texture, etc., adding up to an exciting shopping atmosphere.

The cross-overs, built of steel and plexiglass domes, accent with different colors the various mall locations, helping the shopper to orient himself. The colorful glow of the domes at night harmonizes with the soft lighting from the column lanterns. During the day the rhythmic pattern of the white lanterns is reflected against the curved polished shapes of the domes.

The interest of the shopper is also subtly carried to the pattern of the mall walks. The paving patterns are done in black and light grey concrete with linear accents of black terrazzo-like asphalt paving blocks.

Colorful landscaped areas and fountains soften all malls and complement the organized paving pat-



Main mall looking west toward Federal store. Fountain by Richard Jennings



Concrete and ceramic Laughing Horse, by Rosemary Zwick



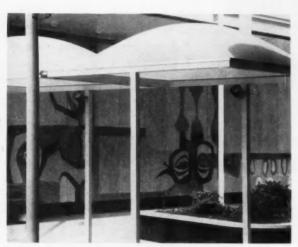
42 ft mall at Montgomery Ward store



Main entrance mall next to parking



Whirling Dervishes by Nathan Kaz in mall location



Precast concrete mural, Marjorie Kreilick, sculptress



Fountain by Richard Jennings



Family of Bugs, by Betty Conn

tern; their impact is heightened by the variation in size, shape and height.

#### Shopping Environment: Art

An important factor contributing to the festive and interesting environment is the introduction of extensive art work. Two large murals were executed in vivid colors of standard size glazed bricks: one 80 ft long by 10 ft high, designed by Richard Jennings, depicting animal and plant forms derived from temperate and tropic zones. The intricate pattern includes elephants, snakes, giraffes, an octopus, etc. The other brick mural, by Gerry Kavanaugh, depicts a colorful landscape of flowers and foliage. The bricklayers followed the pattern to the minutest detail, proving that brick has many uses. This skilled brickwork also brings together the artisan, artist and architect and belies the opinion that there are no dedicated craftsmen in this country. Another abstract mural 120 ft long, designed by Marjorie Kreilick, was executed in precast concrete panels and chipped aggregates; each panel 3 ft by 12 ft was prefabricated in the shop from full size patterns by the artist.

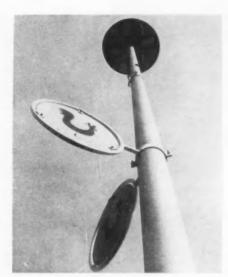
In the walks through the malls there are many other pleasurable and amusing experiences for the shopper: the "Whirling Dervishes", designed by Nathan Kaz, a pair of 6 ft figures rotating slowly on their base; three fountains, each having its own unique character, designed by Samuel Cashwan, Richard Jennings and Betty Conn; two whimsical figures—"The Laughing Horse" and the "Cat"—by Rosemary Zwick, made of concrete with inlaid ceramics; and a 6 ft "Rooster" by Donald Buby, with colorful enameled metal feathers and tail.

Color and visual interest is also carried into the parking area through the use of graphics. Parking areas are identified by signs mounted on lighting poles. These signs graphically illustrate various animals, flowers and other geometric figures, their colors and shapes making it easy for the shopper to locate his parked car.

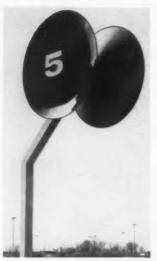
#### Service

Of vital importance to the Center is ease and convenience of merchandise delivery, especially for the smaller stores with limited sales staff. Three main types of servicing were considered: the full underground service, the courtyard service, and direct surface service.

The underground service system was discarded because of its prohibitive construction and maintenance costs and its doubtful maximum utilization



Enameled steel parking signs



Entrance drive identification

PHOTOS on pages 165-170 are by David R. Kitz, John Gaffield Studio, Baltazar Korab, Aurora Photographic and Richard Jennings



The Cat, by Rosemary Zwick

by the tenants. The enclosed service court arrangement, with each court serving a group of stores, was quite adaptable, but occupied excessive valuable space and eliminated store frontage.

The introduction of a limited tunnel originating at a central service point, leading to the front and branching out underground to serve the two North buildings, proved very successful. This tunnel is served by an elevator and an inclined conveyor belt. Electric cars within the tunnel carry merchandise to individual tenants.

#### Structural

Based on economical spans, an orderly gridiron structural steel system was established for the entire Center, with the exception of the Montgomery Ward Store. This was designed in an effort to anticipate the needs of future tenants. To allow for freedom in store front design in unassigned areas, columns were eliminated from all store fronts by setting the columns back 10 ft from the building line. The structural system itself is based on the cantilever beam principle, which lightens the steel sections considerably.

An entirely different solution was used for the structural system of the Montgomery Ward Store. Here the first floor construction was of reinforced concrete, caisson foundation, and concrete waffle ceiling; while the second floor was designed for structural steel framing.

#### **Dual Ownership**

The dual ownership of the Center provided a challenge which appeared in the very preliminary stages of development. While the major department store—Montgomery Ward & Co.—owned its land and building, the balance of the Center was built by a developer for leasing to individual merchants. This factor required initiative and firm control on the part of the architects in the establishment of project requirements which would be binding for all tenants.

The ultimate goal was to create continuity of architectural design and a unified character for the entire complex. However, the tenants' individual identity was retained and expressed within the overall pattern. Heights of buildings and canopies, use of materials, location of services, size and placement of signs and an overall color scheme, all contributed to the unification of the Center.

Serving more than a dozen communities, Wonderland occupies 60 acres, with an additional 20 acres set aside for expansion. The center is located midway between Detroit and Ann Arbor, Michigan.

### SMALL CENTER KNOWINGLY UNDERSTATED

Ladera Shopping Center near Palo Alto, Cal.

ARCHITECT:

John Carl Warnecke

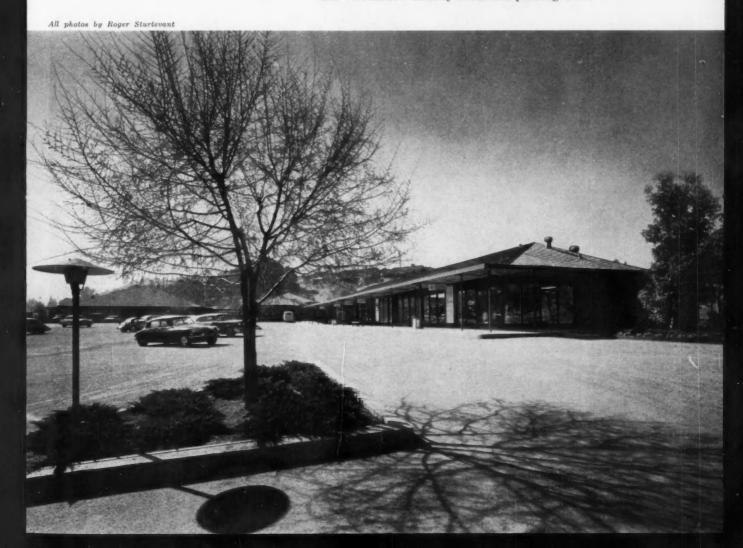
LANDSCAPE ARCHITECT:
Lawrence Halprin

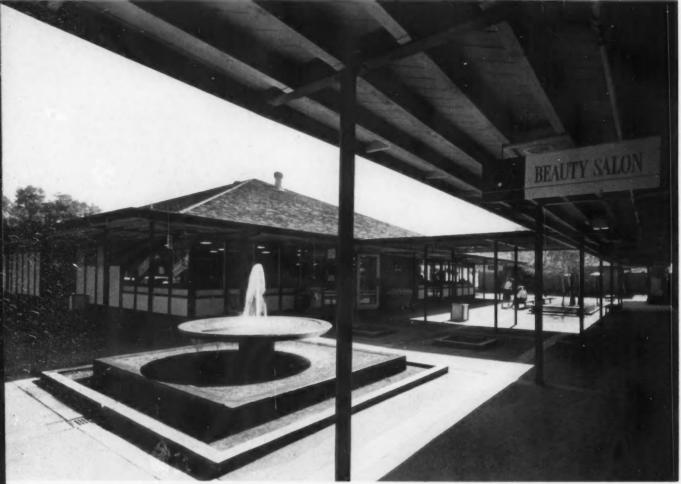
STRUCTURAL ENGINEERS: Wildman & Morris

MECHANICAL & ELECTRICAL ENGINEERS: G. L. Gendler & Associates

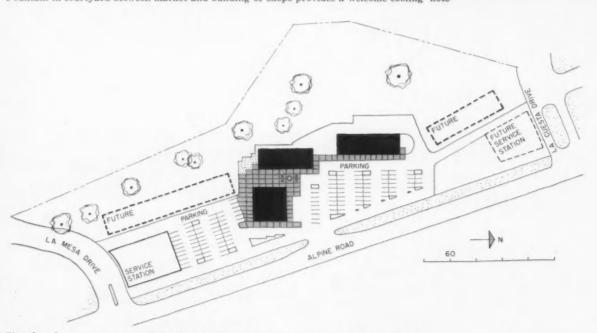
The Ladera shopping center skillfully echoes the character of its environment; a high-class residential section which will undoubtedly strive to maintain its pleasantly rural quality as it develops. The center's wide-spreading, wood shingled roofs, its informal grouping of three low buildings, and its almost rustic character—expressed by exposed wood construction with either glass or redwood board-and-batten infilling—all contribute to the effect. The deep shade of the low-hung, sheltering arcades adds an inviting coolness for hot days, as does the fountain (photo next page). All signs were under the control of the architect—except for those stickers supermarket operators insist upon plastering on most of the glass available, and at an angle!

The plan is based on the idea that the shopper is a pedestrian. The three buildings that form the center are grouped in L shape and linked together by covered walks; are oriented to face upon an open, landscaped courtyard that can be reached directly from the parking area.





Fountain in courtyard between market and building of shops provides a welcome cooling note



Site plan shows arrangement of the three buildings and parking area on the five-acre plot



View showing the three buildings and their relationship to parking



Looking along the court towards the parking area

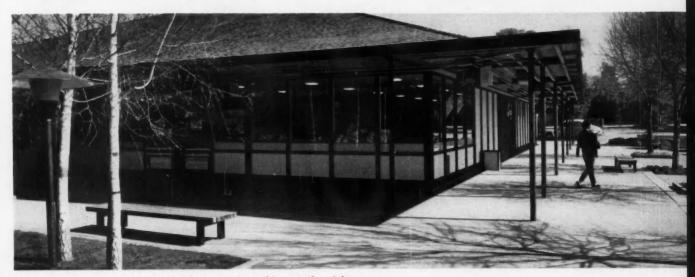


Photo showing supermarket in the foreground; parking at the right

## SWEDISH STORE WITH NOTABLE INTERIORS

Nordiska Kompaniet Store Farsta Center, Stockholm, Sweden

ARCHITECTS: Backstrom & Reinius

INTERIOR ARCHITECT: Hans Harald Molander

CONSULTING ARCHITECTS: Ketchum & Sharp



All photos by Alexandre Georges

This air-conditioned department store—which serves a market of 235,000 in suburban Stockholm—was designed by a team of Swedish and American architects working in close collaboration. The result is that American store planning methods and merchandising concepts have shaped the building and determined its interiors, while Swedish design has given the whole its visual character. Unlike most Swedish stores, which combine natural and artificial light, Nordiska Companiet has blank upper walls and artificial light only, in accordance with American practice. Interiors are typically Swedish in character, with color sparingly used, and with white and natural wood serving as predominant tones.

At left, the façade on the center's main pedestrian mall. The upper walls and pierced balustrade are of textured gray Swedish granite; the store front glazing members are bronze; the exposed columns at ground level are clad in polished gray granite.



Ground floor sales area. White marble floor; natural walnut and white plastic sales fixtures



China and glassware department



Lamp department



Women's shoe department



China department



Women's sportswear section



Tearoom on the upper floor



## CENTER WITHIN A TOTAL SURBURBAN PLAN

Maryvale Shopping City Phoenix, Arizona

ARCHITECTS:

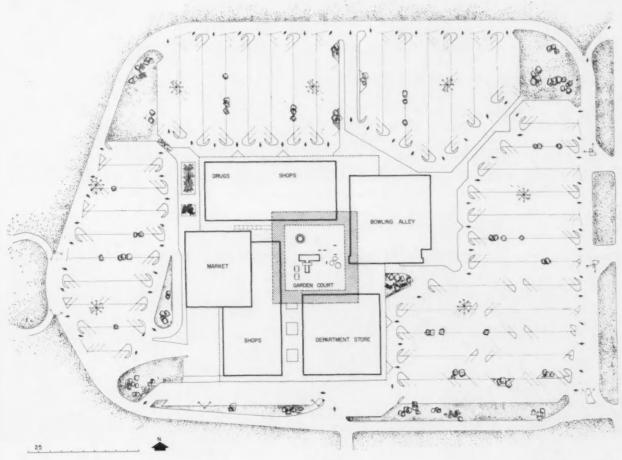
Victor Gruen Associates

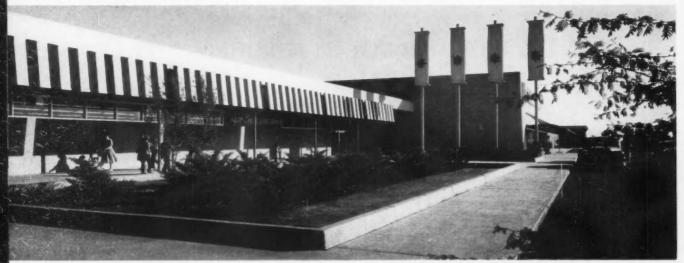
GENERAL CONTRACTOR:

John F. Long Home Builder, Inc.

This handsome shopping center—crisp in form, colorful, and full of visual interest—is actually part of a 6,000-acre total suburban plan (also by Gruen) for the development of a self-contained community of 60,000, located 12 miles northwest of the Phoenix central business district. A notable effort directed against uncontrolled suburban sprawl, the community will eventually include a hospital and medical center, a park, a golf course and club, schools, an industrial park for research and light industry, and housing.

The shopping center consists of five buildings clustered about an interestingly handled garden courtyard, shown in the photo at lower left. The courtyard canopies provide relief from the intense desert sun; some have flat, solid roofs—others are barrell vaulted with special patterned paper embedded in translucent plastic. An arched bridge with tile steps and walk spans a central, T-shaped, dark blue pool which contains groupings of lighting fixtures. The court is variously paved with tile, exposed aggregate concrete with redwood strips, and brick.





Canvas banners with Maryvale symbol mark arcade entrance. Black and white awnings shade a row of shops

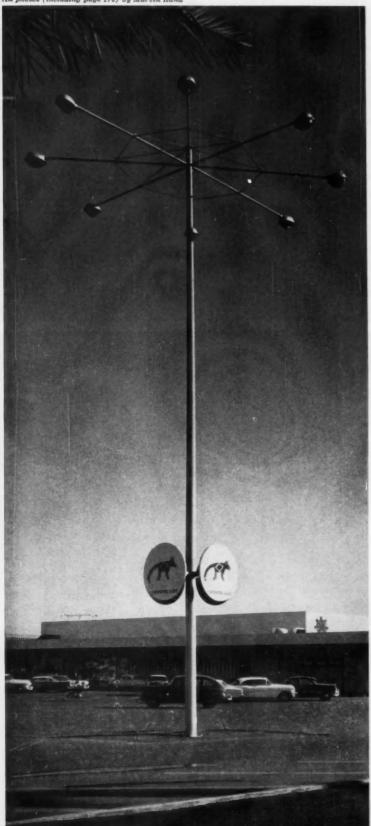


Montgomery Ward store has concrete block walls, plaster fascia, metal canopy. Exterior lights make pattern on wall

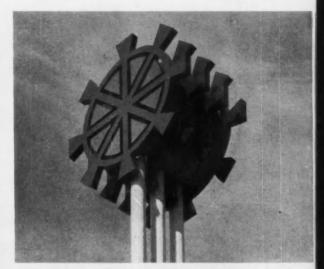


Bowling alley has block walls painted deep rust color, white plaster canopy with yellow tile panels between beams

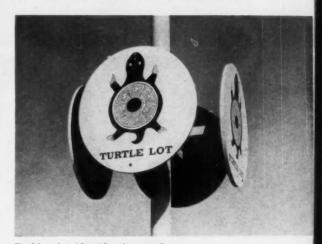
All photos (including page 176) by Marvin Rand



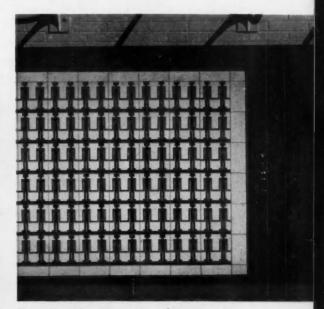
Circular signs with desert animal motif identify parking lots



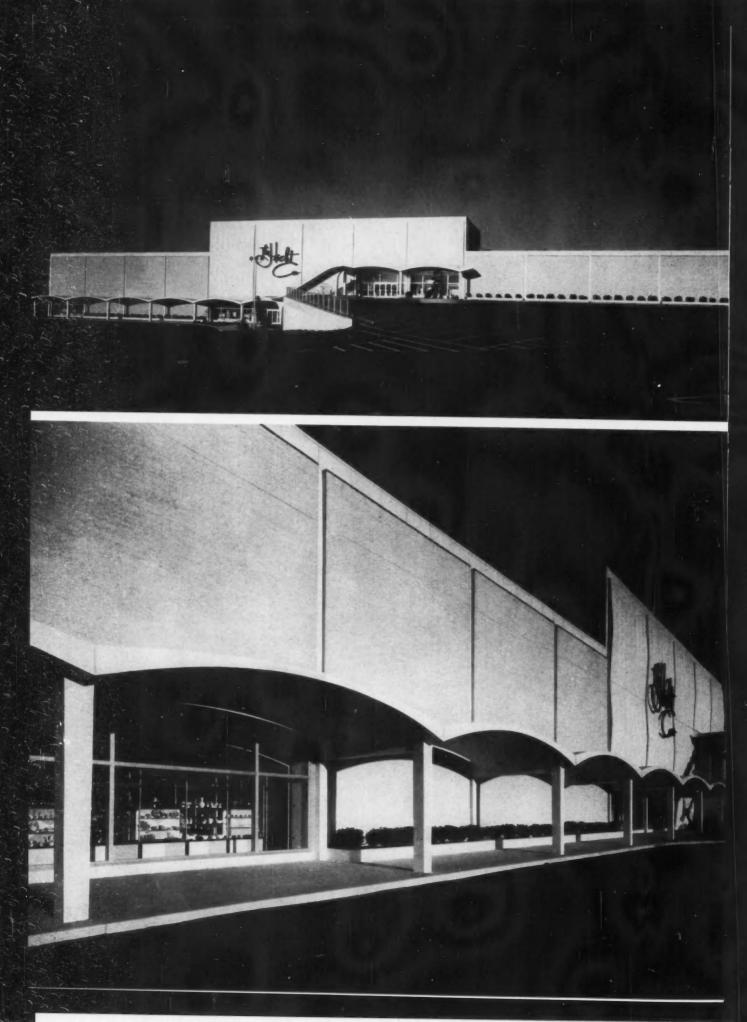
Center symbol, derived from Indian symbolism



Parking lot identification markers



Decorative tile pattern at market entrance



### TWO LEVEL STORE: TWO LEVEL PARKING

The Hecht Company
Marlow Heights, Maryland

ARCHITECTS & ENGINEERS: Abbott, Merkt & Co.

ASSOCIATE ARCHITECT:

Daniel Schwartzman

GENERAL CONTRACTOR:

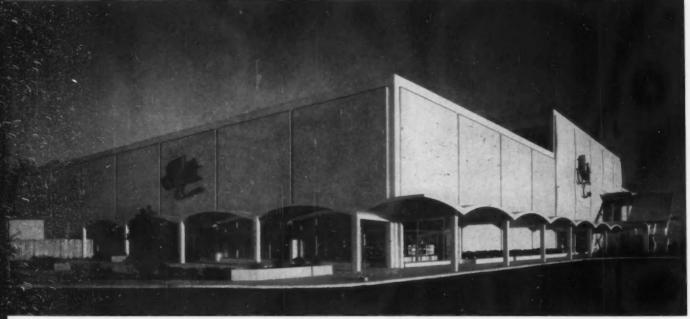
Prescott Construction Co.

Regarding the design of this visually exciting branch department store in suburban Washington, architect Daniel Schwartzman says, "The lower level has direct access to the shopping center mall on one side; while the upper level has access to a secondary mall to be built later. This split level arrangement provides direct access to parking on both levels. One of the design problems was to solve, as gracefully as possible, the relationship between the two entrances at different levels. Our solution was an open reinforced concrete stairway with a curved canopy, connecting the two arched canopies which shelter, respectively, the lower walkway and the upper entrance.

"The structure is of reinforced concrete, and where it remained exposed it was given a liquid tile finish in off-white. Major exterior walls were faced with split-face, exposed quartz aggregate concrete brick, also off-white. Large panels of precast, exposed quartz aggregate concrete in sculptured form—large in scale—were used for the panels over the entrances (shown in the photograph below). The simple and rather elegant quality achieved by the single color of the building, together with its arched and sculptured forms, gives it a distinctive character expression of the merchandising philosophy of the store."







View at lower level corner, showing arcaded display windows and open stairs to upper level



China and glassware department has interesting see-through character, due to coordination of fixtures and building



Exterior view of the china and glassware department, located at the lower level corner shown at left



A decorative metal grill separates and defines the Hi-Fi and television department as a small shop





### INWARD DIRECTED REGIONAL CENTER

Mayfair Shopping Center Wauwatosa, Wisconsin

#### ARCHITECTS:

Perkins & Will and Grassold-Johnson Associates Marshall Field Store: Loebl, Schlossman & Bennett Gimbel's Store: Welton Becket & Associates

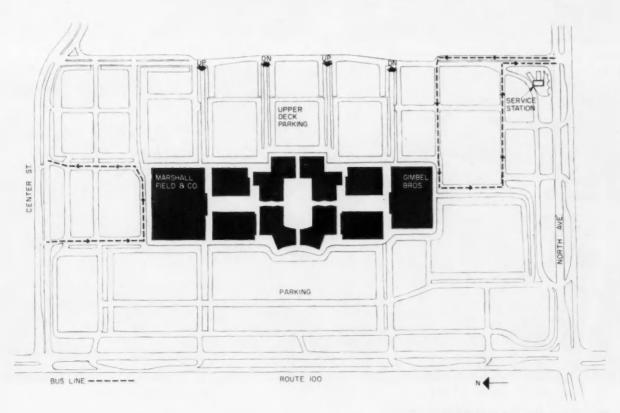
LANDSCAPE ARCHITECT: Franz Lipp

CONTRACTOR: Hunzinger Co.

This 20 million dollar shopping center—built on a 150-acre plot in a Milwaukee suburb—is designed with its 70 shops having their main fronts and business entrances opening to an attractive interior mall. The two exceptions to this general principle are the "anchor" department stores, Marshall Field & Co. and Gimbel's which close the plan at the ends. The 960 ft mall is tastefully handled, and with its canopied sidewalks, rest areas, and landscaping, creates an unusually appealing environment for shopping. Fieldstone, white palos verdes stone, concrete, tile, and a wide range of brick and woods are used in various combinations to make a variety of texture, color, and form for visual interest.

The six-story professional office building adds a vertical element to the composition and offers a contrast to the wood and stone of the shops. Its two end walls are of white concrete, while the long façades are curtain walls of aluminum with panels of light blue procelain enamel on steel alternating with the glass in checkerboard pattern.

The center is serviced by a two-lane underground tunnel in loop shape, which can be entered from either of two entrances. The tunnel serves also to carry heat, light, power, and air-conditioning runs for the various stores.



## Mayfair Shopping Center



Two views of the attractively landscaped central mall

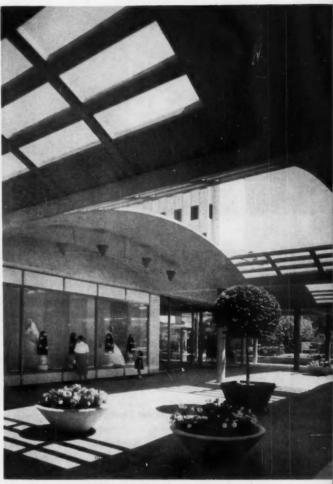




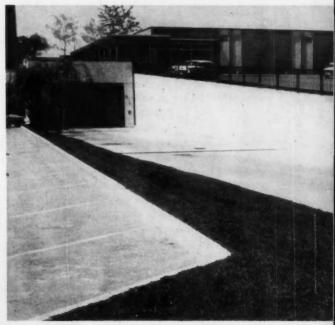
The office building strikes a vertical note in the group



Parking entrance to the Marshall Field store



Arcaded walks with interesting light and shade



Lower level entrance to the service tunnel

Commercial Studios



## ATTRACTIVE ROADSIDE GARDEN CENTER

Siebenthaler's Garden Center Dayton, Ohio

ARCHITECTS:

L. Morgan Yost & D. Coder Taylor

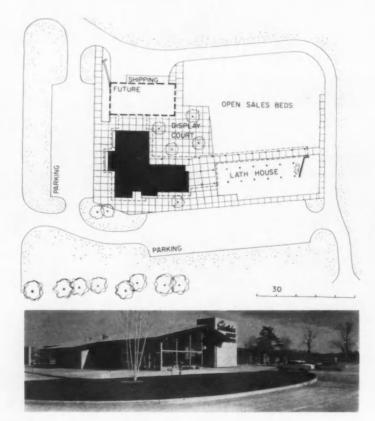
LANDSCAPE ARCHITECT:

George Siebenthaler

CONTRACTOR:

Dwain Pansing

This suburban nursery and outlet for garden supplies is located at the intersection of two highways—hence is designed for customers on wheels. In the development of the plot, gardens, and buildings, sight lines for traffic from four directions were carefully studied, as were the locations of parking areas and access. The post and beam building is of fir timbers and planks, while the siding is rough-sawn cedar. The cream-colored stone was obtained from an old barn existing on the property.



## Architectural Engineering

## The Economics of Insulation

The economics of thermal insulation has suddenly become a highly topical subject in building construction and for industrial piping and process equipment. Several insulation manufacturers, for example, have developed short-cut methods for determining savings in heating and cooling costs through use of insulated walls and roofs. Beyond this, two recently published treatises give methods for determining economically the optimum amount of insulation. The first of these is an 8-page monograph, "How Much Building Insulation is Economically Justified," by C. C. Thomas in the March 1961 Reference Section of Air Conditioning Heating and Ventilating. Essentially, this article gives an equation for optimum insulation thickness (for a given insulaton and a given design temperature) based on cost of insulation, cost of heating plant and the present value of future fuel costs. The other work is a 182-page manual, "Economic Thickness of Insulation for Flat Surface and Pipes," prepared by the Engineering Experiment Station of West Virginia University in cooperation with Union Carbide Chemicals Co. Although a classic equation of L. B. McMillan published in 1926 gave optimum thicknesses for pipe insulation, it proved to be too tedious and time-consuming to be practical. In the new manual some 54 billion possible combinations involving heat costs, insulation costs, insulation conductivity, temperature differences, pipe sizes and flat shapes have been set up in a series of graphs and tables (360 on pipe insulation thickness). The data was determined by 83 hours' use of electronic computer time. As it stands, the manual is set up for determining insulation thickness for piping and process vessels and for boilers and piping in building heating systems. It will be available after June 15 from the National Insulation Manufacturers Association, 441 Lexington Ave., New York 17, N. Y. for \$10 per copy.

## Instant Shells

Texas A & M College professor James H. Marsh III has developed a rapid method for building thin shells in which the reinforcement is laid out on the ground, popped up into three-dimensional shape through tension applied to cables, and finally covered by lightweight concrete, plastic or other surfacing material.

### More Russian Concrete

The rapid rate of urbanization now taking place in Russia has been made possible largely through the assembly-line production of precast concrete building units, according to Dr. A. Allan Bates, Vice-President for Research and Development of the Portland Cement Association, who headed a U. S. delegation of concrete and construction experts that toured the Soviet Union last summer. The concrete products are factory produced after development by Soviet central research institutes. There are several of these which control every activity in concrete work from geological search for raw materials to design of finished structures. Applied research and development are performed on a wide scale, and, because of the powerful position of the research institutes, results are put into practice quickly.

# Status of Plastics in Building

What are the hurdles in the way of plastics making greater headway in the building field? This was the subject of an investigation by a team of second-year students at the Harvard Graduate School of Business which has now been published in a 129-page book titled *Plastics as Building Construction Materials*. Factors considered were: the applicability of plastics to building construction; terminology and standards problems; building codes; trends affecting the acceptance of plastics as building materials; action taken by special interest groups; manufacturing and construction problems; and cost problems. It may be obtained from Structural Plastics Associates, P.O. Box 13, Belmont 13, Mass. \$18.50.

# This Month's AE Section

AIR CONDITIONING DUCTS BUILT INTO FLOOR AND ROOF STRUCTURES, p. 190. A NEW LOOK AT FLAT PLATES, p. 193. TIME-SAVER STANDARDS, Store Fixtures, pp. 198, 199, 200. BUILDING COMPONENTS: Food Service Equipment, p. 205. Product Reports, p. 207. Office Literature, p. 208.

## AIR CONDITIONING DUCTS BUILT INTO FLOOR AND ROOF STRUCTURES

- 1. Steel sub-floor in two office buildings provides cells for dual-duct air distribution
- 2. Edges of concrete umbrellas shaped to form supply air plenums for a cafeteria

Northwest Staff Center Michigan Bell Telephone Co., Detroit, Michigan Architects and Engineers: Smith, Hinchman & Grylls Associates, Inc.

Mechanical services for buildings used to be treated more as appendages than as integral parts of them. But as air conditioning loads have zoomed upwards, architects and engineers have had to take a closer look at ways to minimize the space required for these services, particularly ductwork. In addition the public is growing more sophisticated about the quality of thermal control, and systems are being designed to provide much greater flexibility.

Illustrating these two trends is a new building complex in Detroit, the Northwest Staff Center of the Michigan Bell Telephone Co., designed by Smith, Hinchman & Grylls Associates, Inc., Architects and Engineers.

There are two examples of the use

of structural elements for ducting conditioned air: In one case the cellular steel floors of two office buildings now under construction have large cells to serve as branch air ducts, as well as the smaller conventional cells for electrical distribution. This system is a development of the H. H. Robertson Co., Pittsburgh, Pa. In the other case, edges of the concrete umbrellas for the Service Building roof form supply plenums which blanket the cafeteria with conditioned air.

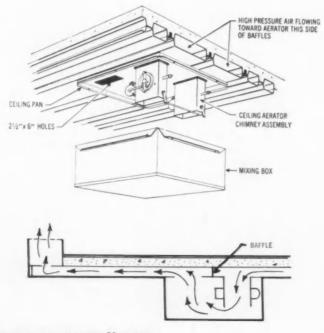
#### Cellular Floor System

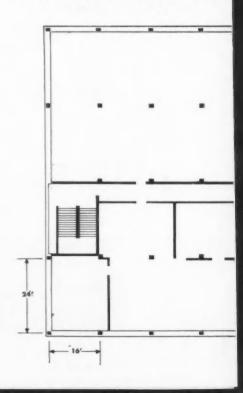
Main supply ducts for cold and hot air run the length of the office buildings feeding the air cells which are perpendicular to the main ducts. Interior areas always require cooling. Perimeter areas may require either heating or cooling, depending on the season; cooling also will be necessary on winter days when the solar load is large enough.

For perimeter areas, pairs of air cells extend from the main supply ducts to mixing boxes. From the mixing boxes the air is fed back into the cells which are connected to continuous sill units. Individual control is provided on an 8-ft module.

For interior offices, which have individual control also, air from the mixing boxes is ducted to ceiling diffusers.

The floor system distributing the air is a high velocity, high pressure system. There are two main supply

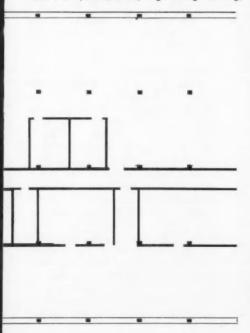


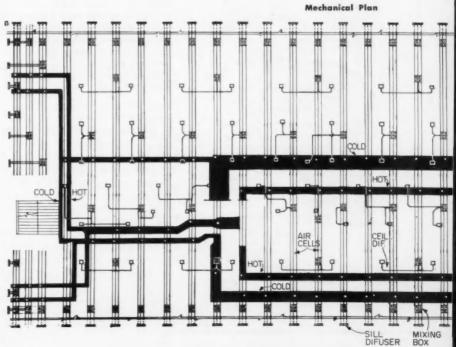


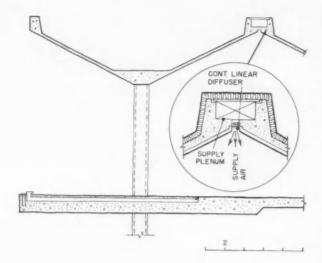


In this five-building complex, two office buildings, the Engineering Building (background, left) and the Woodward Building (foreground) use cellular steel flooring for air distribution. The office buildings are enclosed in glass and, at columns, porcelain enamel panels; the long sides face north and south. The air cells, which are perpendicular to the main supply ducts, feed cold and hot air to mixing boxes attached to the underside of the steel flooring, and from there to continuous sill diffuser units. For interior areas, the air is ducted from mixing boxes to ceiling diffusers. Air is returned through ceiling registers. When full cooling is required, the hot supply duct is switched to a cold duct so that all cells supply cold air to diffusers. On the heating cycle, hot (up to 120 F) and cold air is mixed to provide a constant volume of air at the required temperature. On the cooling cycle, the volume of air (at 55 F) is varied by dampers to satisfy cooling demands. Two sets of main supply ducts are used. This was necessary because mechanical rooms and elevator shafts south of the corridor interrupt the air cells; this also permits the ducts to be shallower.

Floor Plan (One-Quarter, Engineering Building)







CONVECTOR

SPRAYED
OFIREPROOFING

SUSPENDED ACOUST.
CEILING

PACK MULLIONS WITH
LOOSE INSUL.
I" RIGID INSUL.
STRUCTURAL GLASS

Above: Top floor of the Service Building (center in photo previous page) has a roof of inverted concrete umbrellas which cover the cafeteria and kitchen. Air supply for the cafeteria comes from plenums up to 68-ft long formed by the top edges of the umbrellas. Air supply for the corridor around the perimeter of the building is delivered through a plenum provided in the top of the floor slab.

Left: Wall section through the office building shows the relationship of structure and air distribution system. Since a low silhouette perimeter diffuser was desired, the mixing boxes were attached to the underside of the cellular steel flooring. The air cells at any one floor supply the perimeter of that floor and the ceiling of interior areas on the floor below. ducts feeding each side of the building, one cold and one changeover.

During heating periods, one main supply duct carries cold air and the changeover supply duct, hot air. When the whole building requires cooling the changeover duct is switched to cold air. The changeover duct is converted to a hot duct through use of a reheat coil in the equipment room.

Economies in both operating and initial costs were achieved by the control of air volumes during the heating and cooling cycles. Air volumes, and thus temperatures for the various spaces, are established by dampers in devices called Aerators. There are two Aerators for each mixing box.

On the heating cycle, a constant volume of air is supplied. Dampers in the Aerators operate at right angles to each other to admit proportional amounts of warm and cool air. As the hot damper opens, the cold damper closes and vice versa. (The minimum amount of air is supplied during this cycle.)

On the cooling cycle both air cells to each mixing box are furnishing cold air and the dampers in the Aerators are operating in unison to vary the quantity of air in proportion to the cooling load. The quantity of air supplied to the perimeter of the building is thus dependent upon the instantaneous load rather than the sum of individual peak loads as would be the case in a system delivering a constant volume of air at all times.

Variation in air volume is dependent on the heat gain at a particular time. Without solar load, the volume of air delivered on the south side could be reduced by 45 per cent.

With the building operating normally, the fluctuation of load is due mainly to change in solar and conduction load. In the morning (and with a relatively small east exposure) the quantity of air could be 15 per cent less than at 4:00 P. M.

As a result the fans and other equipment can be smaller than that required if the cooling also was designed for constant volume air supply.

The engineers specified fan capacity control with inlet vanes to maintain constant duct pressure, thus taking advantage of reduction in fan motor operating cost through use of throttling control for cooling and reduced air capacity for heating.

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BOX

AFRATOR

## A NEW LOOK AT FLAT PLATE CONSTRUCTION

by Seymour Howard, A.I.A., Associate Professor, Pratt Institute A discussion of recent work by Lev Zetlin, Consulting Engineer, New York

Although flat plate construction—reinforced concrete slabs supported directly on columns without beams—has been on the building scene for some time, its design potential has remained largely unexploited. As reported here, however, structural engineer Lev Zetlin has demonstrated the new architectural possibilities that flat plates offer when their structural advantages are correctly understood and their structural behavior correctly analyzed. Dr. Zetlin has designed economical flat plates with longer-than-customary spans, with openings next to the column, and without spandrel beams.

A "flat plate" is defined as a reinforced concrete floor slab supported directly by columns without beams. Unlike "flat slabs," flat plates have neither capitals nor drop panels over the supporting columns, but rest directly on top of columns which have constant cross section from floor to ceiling.

The expanding practice of using flat plates in multi-story apartment, office and hospital buildings has been brought about largely by the obvious economy effected by the absence of beams: cheaper formwork; elimination of furring and other finishes common to projecting members; flexibility in ductwork and other mechanical fittings; and, finally, reduction of total story height since the entire space between floor and ceiling is utilized. Although flat plate floor slabs are usually thicker than slabs supported by beam grids, the total quantity of concrete in a flat plate is comparable to, or smaller than, that in a beam-and-slab floor

Flat plates are also gaining favor for their speed and simplicity of erection. Time and again bid prices for flat plates have come in lower than other conventional structural systems. Until recently, a flat plate would prove economical for buildings up to only twelve stories high, but flat plate office buildings and apartment houses are now becoming economical up to 24 stories high due to the longer modern cranes.

One of the other commonly mentioned advantages of flat plates is the flexibility in locating columns in plan, but while this is an advantage for architectural planning, it is not beneficial economically. The design of flat plates with regular column spacing is covered by the ACI building code, but irregular column spacing requires an elaborate design which sometimes results in overdesign. Also, irregular bays necessitate variations in size and length of bars, which increases the cost of reinforcement. Regular bay sizes may be monotonous architecturally, but they are more economical.

However, flat plates have a number of other inherent possibilities that do offer further flexibility in architectural design and economy—particularly in mechanical installations, architectural planning and finishing. On the whole, these potentialities of flat plate design have not been explored sufficiently, but Dr. Lev Zetlin's recent practice shows that architects can safely use flat plates to greater advantage, lengthening spans, omitting spandrel beams, and even introducing openings in the slabs next to the columns.

Before discussing these possibilities, however, there is a general question that should be considered.

## What is a "Correct Structure"?

This question has preoccupied many architects in recent years as they

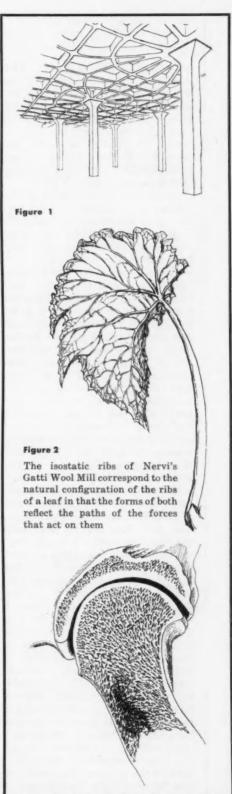


Figure 3. Other natural structures respond to forces with changes in material. In a bone, the wall thickens at the joint, the interior is hollowed out like a sponge

have sought logical shapes for their buildings. The poet-engineers like Maillart and Nervi have been admired for the consistent way they have designed their structures so that the form reflects the path of forces. This might be called the "form follows force" theory and can be substantiated by many examples in nature, particularly in plants.

An esthetic system could be developed as an extension of this theory, using the following argument: From earliest childhood our structural intuition is built up slowly from continually feeling the action of forces on our bodies and from repeatedly seeing natural forms which have received their shape from the forces acting on them. Then, when we are confronted with the isostatic ribs of the Gatti Wool Mill, for example, we are intuitively and consciously aware of the correspondence with the ribs of a leaf. (Figures 1 and 2.) We recognise a principle of design which has general validity. This may be the reason for the almost universal acclaim accorded to the great civil engineering monuments such as bridges and dams whose visible shape is determined by the analysis of forces.

However, we can easily find in nature thousands of examples which are less familiar as structural solutions but which indicate that there are many other aspects to the problem of form and many other answers to our question. Instead of changing the external shape, the material itself may be varied. A section through a bone shows how the solid wall is thickened at the joint and how the structurally less necessary interior is hollowed out like a sponge. The visible shape is determined mainly by mechanical considerations. (See Figure 3.) This might be called the "material follows force" theory of structural design, to distinguish it from the one we have named "form follows force."

Actually the very awkwardness of this terminology reveals the limitations of the theories. The reason is that "structure" by itself is only a concept which is meaningless without reference to some more primary purpose. The objective underlying the form of the leaf is to expose the maximum number of cells to the sunlight. Its flat shape solves this best and the structure must conform to it, even though ribs subject to bending moments are less efficient than structural elements loaded purely in tension or compression. Even these ribs are given their form as much from their function as food arteries as from structural requirements. An animal must walk or fly or swim. The complicated structure of bones and ligaments and muscles must conform to the mechanical requirements. Similarly the primary forms of ships and airplanes are derived from the requirements of stability and propulsion.

The design of buildings should follow the same principle. The primary form should be given by the need for certain spaces for human activities. In the past we have accepted many limitations on these spaces because of inadequate construction techniques. In fact beauty has been created out of these very limitations. Now that it is technically possible to do almost anything imaginable, we are at a loss. The great architectural problem of our time is to define in human and esthetic terms what the nature of our buildings and cities should be. Every development in technique which frees us from arbitrary limitations should be welcomed, however much it may disorient us when it first appears.

Flat Plates in Reinforced Concrete An example, though not new, of such a development is the flat plate concrete slab. This consists only of columns and slabs, without drop panels and without capitals for the columns. Here the external form does not follow the distribution of forces as they vary through the slab or column. The building as a whole is primary, with its requirements for mechanical equipment, for the free placement of partitions and for economy. A structurally sensitive design is still possible, however, by varying the nature of the material: the pattern of the steel reinforcement is evidence of this variation.

Flat plate design has been used with increasing frequency in the United States over the past 20 years. While flat slabs with capitals and drop panels were developed as appropriate for warehouses and factories, flat plates have been found advantageous for the lighter live loads of multi-story apartment houses, offices and hospitals.

The absence of beams and drops simplifies the formwork, permits ductwork and piping to be run without obstructions and usually reduces floor to floor heights. Although flat plate slabs are typically thicker than those supported on beams (usually about  $\frac{1}{36}$  of the span), the total quantity of concrete may be less than in a beam and slab floor. The amount of steel is likely to be somewhat greater.

One of the often mentioned advantages of flat plates is the freedom in column location, known by the descriptive term of "spatter column" design. This may help to squeeze low-cost housing plans so that there is no "extravagance" and every room is the exact legal minimum, but it does not save money. Irregular column spacing requires more complicated and hence more expensive structural calculations than regular spacing. Also, irregular bays necessitate variations in sizes and lengths of bars, increasing the cost of reinforcement. Regular bay sizes are definitely more economical and of course can help establish an architectonic rhythm.

Although in general the architect does not personally design the pattern of the reinforcement, it is desirable for him to be aware of the general behavior of a flat plate. A concrete flat slab acts differently from a steel plate of similar span because the stiffness and the strength of the concrete vary with the amount of reinforcement. Given spans, slab thickness and column dimensions, it is mathematically possible and not impractical to calculate accurately the deflections and hence the moments at any point of a steel plate under a given loading, because the material is uniform throughout. The deflections depend on Young's Modulus (E) and on Poisson's ratio, which relates strain in the direction of normal stresses to those at right angles. With steel both of these are constant. For reinforced concrete, both of these vary with the mix of concrete, with the amount and distribution of reinforcement, with the age of the concrete and with the duration of loading.

An interesting illustration of this variation was given by J. Bar of Haifa in the English periodical "Concrete and Constructional Engineering" of November, 1953. A 4-in. slab, freely supported on six 12 by 12-in. columns and loaded only by its own weight, gave four different "contour maps" of deflections merely by varying the steel. These are shown in Figure 4.

It was from studies of this type that Aldo Arcangeli in the office of Nervi and Bartoli devised the concept of isostatic ribs shown in Figure 1, arranging the ribs to intersect each contour line at right angles. Of course, once the ribs are provided, they are bound to carry the maximum share of bending because of their great stiffness. Sensitive structural design is thus a creative act. The magnitude of the variations in form or in material provided by the designer.

Although the most economical spans for flat plates are in the 16 to 24 ft range, Dr. Lev Zetlin, consulting engineer of New York, has recently designed 11-in. thick flat plates spanning 36 ft for the East Branch Public Library in Yonkers, New York (Eli Rabineau, architect). He has also developed an ingenious method for preventing excessive deflections in long spans without using such great thicknesses. For example, a thin slab with a span of 30 ft is calculated with the four corner columns providing necessary moment connections as well as support. Since this will give considerable deflection at the center, another column is introduced as a prop to remove the deflection. This center column can be somewhat slenderer than the corner columns. As far as plan obstructions are concerned, the total number of columns is only doubled, while with the conventional solution of cutting all the spans in half, the number of columns would be quadrupled. This is shown in Figure 5, with the central prop columns unshaded.

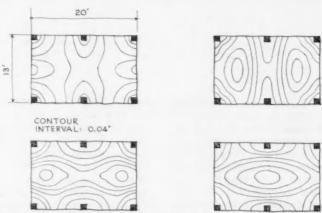


Figure 4. "Contour maps" of the deflections in a flat plate slab show the variations caused by varying the reinforcing steel

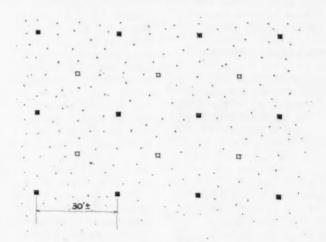


Figure 5. Introducing center "prop" columns prevents excessive deflections in long spans without increasing the thickness of the slab

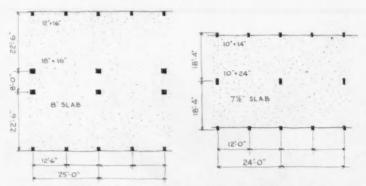


Figure 6. "Half-bay" spacing of exterior columns reduces torsional moments on them, cuts deflection along the edge of the slab

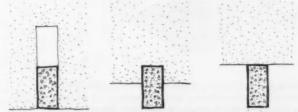


Figure 7. Careful analysis and detailing makes it possible to take advantage of the design implications of column connections like these

Dr. Zetlin has used a somewhat similar device to reduce deflections along the outside edge of a slab and to reduce the torsional moments on the exterior columns. The spacing of the columns along the façade is half that of those on the interior, again minimizing obstructions to free planning. Figure 6 shows two examples, the first for the Cornwall (N.Y.) Hospital, Helge Westermann, architect, and the second for the Sarah Lawrence College Dormitory, Philip Johnson, architect.

## Connection between Slab and Column

Much more critical than the general reinforcement of the slab, which is covered adequately by the A.C.I. Code, or the placement of columns is the connection between the slab and column, particularly if the columns are at the edge of the slab.

Many architects are still reluctant to use flat plate design because of the danger of failure when this connection is not properly designed. Unfortunately such failures have occurred. Some engineers refuse to use flat plate design because they

do not believe sufficient stiffness can be provided in the column-slab connection to resist horizontal forces such as wind or earthquake.

This problem has generally been overcome by using spandrel beams, which stiffen the edges of the slab as well as provide an increased area of contact between slab and column. Openings in the slab near the column have been avoided.

Under the pressure of mechanical engineers for duct, pipe and conduit space, and in view of the evident money-saving advantages of simpler formwork, however, Dr. Zetlin has found that the spandrel beam can be omitted and that openings of considerable size can be provided next to the columns. To do this, advantage must be taken of the true shearing strength of concrete and of the great increase in stress resistance achieved by confining the concrete with additional reinforcing around the edges of the section.

The problem can be considered in terms of three possible failures, first imagining the concrete to be unreinforced. Taking the worst possible case, with a large opening next to the column, Figure 8 indicates the familiar "diagonal tension" failure. Although concrete is strong in shear (about half as strong as in compression), it is weak in tension and cannot resist the tensile stresses which occur along a plane at 45 degrees to the planes of maximum shear. This is easily prevented by diagonal bars or by vertical stirrups.

Figure 9 shows failure in tension due to negative bending. As usual, top steel will prevent this. The region of negative bending will typically extend out about ½ of the span from the column.

In Figure 10 we see the most dangerous possibility and the one most likely to occur—torsion of the slab, which is twisted away from its connection to the column. Just as vertical shear results in a tension failure in concrete, so shearing stresses due to torsion cause tensile stresses to occur along a surface lying at 45 degrees to the surface of maximum shear.

A similar type of failure, with tension along a helicoid surface, can be seen by twisting a piece of

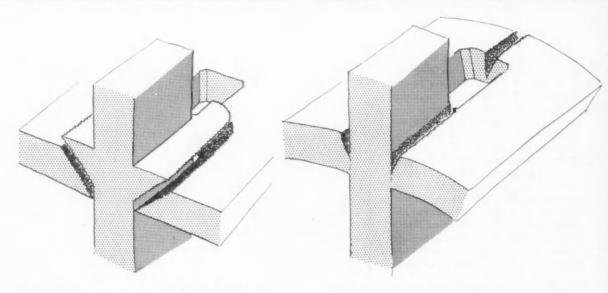


Figure 8. The familiar "diagonal Tension" failure of a flat plate, failure due to tensile stresses along a plane at 45 degrees to the planes of maximum shear, can be prevented by using diagonal reinforcing bars or vertical stirrups

Figure 9. Failure in tension due to negative bending, usually occuring in a region that extends out about two-fifths of the span from the column, can be prevented by careful design and placing of the top reinforcing steel

ordinary chalk or a square eraser until it breaks. The source of the torsion of the slab is found in the rotation of the slab edge as the flat plate is bent or in the bending of the column as it resists the wind.

Analysis of stresses due to torsion arose chiefly in the design of machinery shafting. The French mathematician and physicist Barré de St. Venant published the first complete study of this in 1853. With a circular shaft, the maximum shearing stresses occur along the surface and diminish linearly along radial lines to zero at the center. With non-circular sections, however, warping of the cross-sections occurs. The maximum shearing stresses for a rectangular section will be found at the middle of the long sides, with no shearing stress at the corners.

The column to slab connection shown here is somewhat different because the warping cannot occur immediately adjacent to the face of the column and a greater resistance to torsion is provided. It can also be seen that the tensile stresses due to vertical shear and those due to torsion will tend to cancel out, except when torsion occurs in the opposite direction due to the bending of the column under wind loads.

Figure 11 shows a schematic arrangement of the reinforcement as it might be placed to prevent all of these failures. To simplify the drawing, the general reinforcement of the slab is not shown, although it is of course provided.

Analysis by Dr. Zetlin and the engineers in his office have shown theoretically that the stresses in the concrete in such a detail are within the capacities of the material, and experience with constructed buildings has proved the detail to be safe practically. As a result, the architect can add to his vocabulary flat plate floors without spandrel beams and without edge beams around large openings, and can take advantage of the implications for plan and elevation of column connections like those shown in Figure 7.

Of course, it is possible to lay out the floor plan with square bays, and with the columns set in about % of the bay spacing from the exterior walls, the need for these relatively expensive torsion-resistant connections will be eliminated. The structural solution will be simpler, less expensive and, therefore, "better." However, if this causes awkward planning, the more complicated solution is justified.

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Figure 1 redrawn from photograph in: P. L. Nervi, *Structures*, F. W. Dodge, 1956

Figure 3 redrawn from photograph in: Andreas Feininger, The Anatomy of Nature, Crown, 1956

Figure 4 redrawn from diagrams in: J. Bar, "A Method of Designing Slabs", Concrete and Constructional Engineering, Nov., 1953

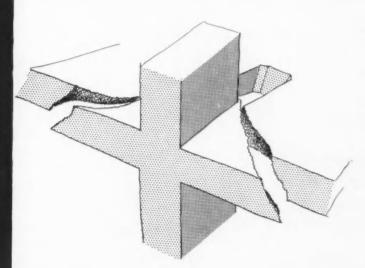


Figure 10. Another common type of tension failure is caused by shearing stresses due to torsion of the slab. However, warping cannot occur adjacent to the column face, which helps the resistance to shear

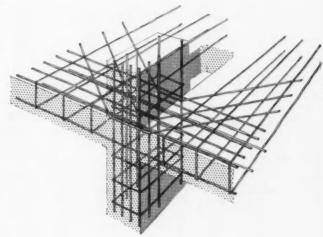


Figure 11. This schematic diagram indicates how reinforcement might be arranged to prevent the failures shown by keeping stresses within the capacity of the concrete. To simplify the drawing, general reinforcement of the slab is not shown

### STORE FIXTURES: 1 — Merchandise List

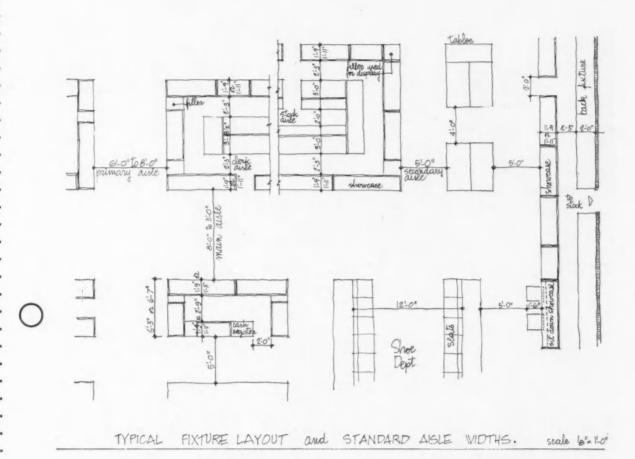
by Daniel Schwartzman, F.A.I.A., Architect

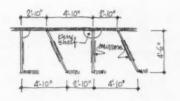
## MERCHANDISE CATEGORY LIST

1-PIECE GOODS	Dress Jabrics Patterns Sourng machines		Misees Sportewear including Blouses Womens Sportewear including Blouses	112-DRAFERY	Curtains and Draperies Upholstery Bluds and Avoungs Redoppeads & Bondor	
2 DRY GOODS	Linens and Towels Domestics Blankets		Eudget Sportswear Street floor Sportswear Jumn Sportswear	13-FAGHION HOME	Silverware China and Olass	
3.5MALLIVARES	Notions, including Sewing accessories Closit Shop	7-CHILDRENS	Juma Grits & Coats Juma Dresses Infants Wear, includes	FURNISHINGS	Oiltware Fictures and Minrons Lamps	
	Things Cormetics Stationery and Greeting lards Cooks	VEAR	layette Infants Furniture Boys 3-bx and 7-14 Quile 3-bx and 7-14 Hosjery	14.HOUSENARES	Bath Shop Laundzy & Cleaning Odcloth and Exper Kitchen Gadgets Cultury	
4. WOMENS FASHION ACCESSORIES	Umbrellas Neckwear and Handkerchiefs Handkags Gmall leather gods Lotume and Better Juvelry		Millinery Accessories Shoes Ourl and Boy Scrits Sul-Teens Wear Sub-Teens Accessories Teens Wear		Pantry grare Victoria and unpauled furniture, calinets Hardware & faints Small Electrics	0
	Hosiery Glaves Belts Millinery including Hat Eaz Shots, including Casual & Super Eaz	&MENS WEAR	Teens Accessores Clothung, Sportswear Furnishungs Hats Shots	15° MAJOR APPLIANCE	s Refragrators Ranges Dishwashers Washing Machines Air Ornationers Vacuum Cleaners	
5-INTIMATE VEAR	Underwear Correts and Bras Rives and Negligees	9-MISCELLANEOUS	Cameras Luggage Sporting Goods	12 MUGIC	Radios TV, Hu-Fu Records Musical Instruments	
S-IVOMENS' READY to VEAR	Misses Better Suits and Coats Writers Better Suits and Coats Furs Endoet Suits and Coats Misses Better Tresses	IC FURNITURE	Toys  lipholstered furniture living Rorm Furniture Mining Rorm Furniture Mining Rorm Furniture Occasional Furniture Outdoor Furniture Bedding	17 MISCELLANEOUS AMA CUSTOMER SERVICES	Pet Shop Laudy Bakery Georges Ligur Shop Beauty Salow Photo Sudio Oplical Shop Garden Shop	
	Ubmers Bellir Dresses Formal and Bridal Budget Dresses Modernity Apports and Uniforms Collon Dresses	II. FLOOR COVERINGS	Broadloom Carpeto Summer Rugs Orientals Resilient Plooning Small rugs and Mits		Darden Shop Restaurant loffe Shop Auto Shop Fur Repair & Stolage Shoe Repair Jewelry Repair Jophanie Repair Offt Wrap	C

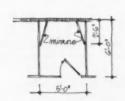
## STORE FIXTURES: 2 - Typical Fixture Layout; Fitting Rooms

by Daniel Schwartzman, F.A.I.A., Architect

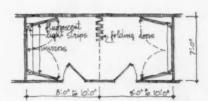




TYPICAL FITTING ROOM



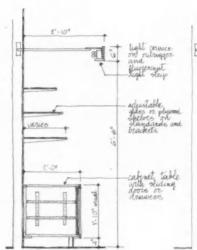
BETTER DRESSES FITTING ROOM



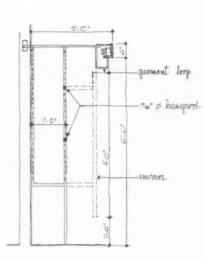
BRIDAL FITTING ROOMS

### STORE FIXTURES: 3 - Back Fixtures; Show cases

by Daniel Schwartzman, F.A.I.A., Architect



13 mes platform

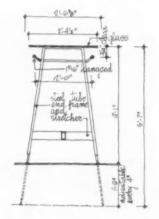


BACK FLXTURE with SHELVES and CABINET UNIT BELOW

BACK FIXTURE with SHELVES only

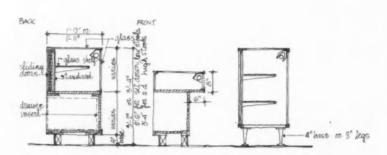
BACK FIXTURE unth SINGLE or DOUBLE HANGING

can be converted to shelving



FREE STANDING HANGING RACK

1 length of hanging each . 5'-0"



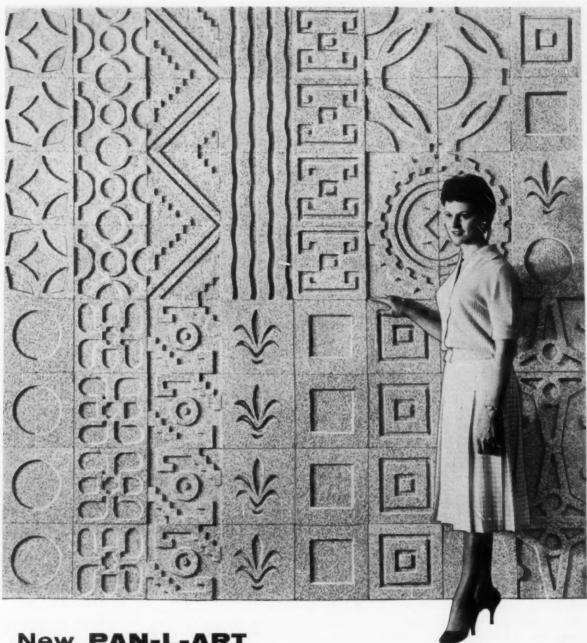
SHOVCASE - wood frame

1 depth of glass feat varies from 2 length of showcast is determined by lamp rize and is 3-0-5-7. 3-hourase ends, either glass in plywood

SHOVCASE - metal frame

1 feame can be standers steel in extruded nickel silver or verige

(Continued in June issue)



## New PAN-L-ART sculptured wall blocks

LIGHT WEIGHT . SOUND ABSORBING . BEAUTIFULLY TEXTURED

New, dramatic wall acoustics, by Tectum Corporation, offer a fresh decorative expression in sculptured deep-shadow designs. Wood fiber Tectum is insulating, structural, fire safe and durable. New 12" x 12" blocks, 1" thick, are offered in fifteen design patterns and a choice of four colors. Now you can have the prestige and drama of carved stone at a fraction of the weight and cost; easily installed with ordinary adhesives. Complete color specifications on request.



Multi Plane Ceilings Sculptured Wall Blocks Geometric Wall Panels

Decorative Division

TECTUM Corporation 535 East Broad St., Columbus 15, Ohio

# Since HOPE'S 1818 ALUMINUM WINDOW WALLS



## OFFICES OF THE BRITISH EMBASSY, WASHINGTON, D. C.

Architects: Eric Bedford, Chief Architect and W. S. Bryant, Superintending Architect, British Ministry of Works.

General Contractors: John McShain, Inc.

This distinctive office building uniquely groups over 400 offices and rooms around a central court with a connecting lobby passageway to a circular conference hall which seats 250 people.

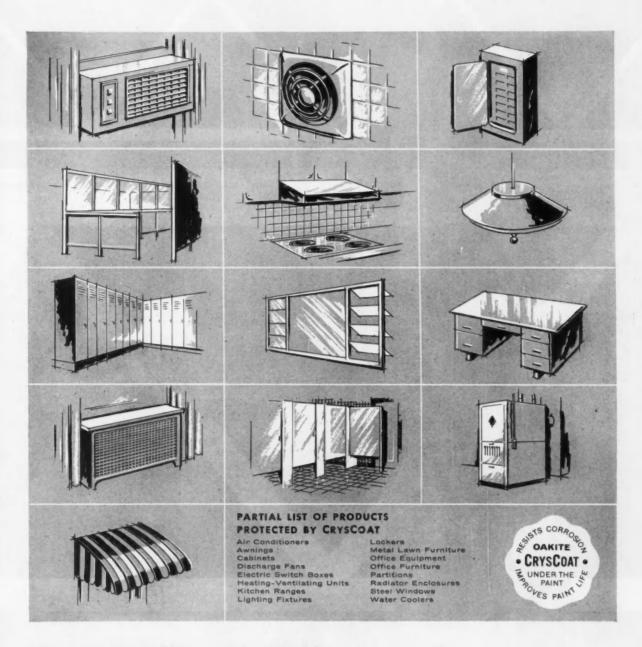
The many benefits of natural lighting are obtained through the use of window walls in offices, library and many other locations including the Ambassador's office. Elsewhere large aluminum windows are recessed in stone surrounds with slate

panels below the glazing. The rotunda of the conference hall is entirely glass set in curved-on-plan aluminum frames; privacy and control of lighting are obtained with electrically operated curtains.

All of the various types of aluminum windows, including a seven story curtain wall, were installed by Hope's experienced erection staff. For further information on the finest aluminum windows and window walls, write for Hope's Publication 170.

HOPE'S WINDOWS, INC., Jamestown, N.Y.

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS



## In your plans it pays to specify products protected under the paint by **CrysCoat**®

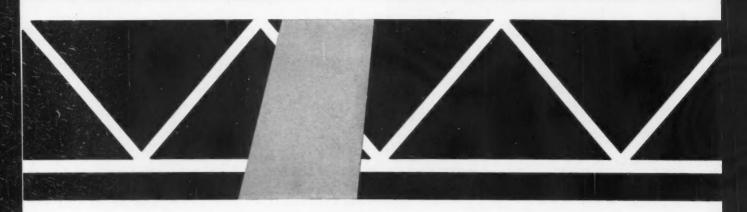
It has been proved year after year on many different architectural products that nothing surpasses Oakite CrysCoat for bonding paint to metal...for blocking creeping rust and preventing paint from peeling or blistering at accidental nicks and scratches...for preserving the beauty of the finish.

When an architect specifies that steel architectural products be CrysCoated, he is assuring building owners lasting satisfaction with their investment.

For information about CrysCoated products, write Oakite Products, Inc., 83 Rector Street, New York 6, N. Y.

CrysCoat paint-bonding treatment makes architectural products look better...last longer







## THE SPACES IN THE STEEL make design problems easier

For strength . . . economy . . . versatility



. . . it's no trick at all to provide for heating lines, recessed lighting, air conditioning, water lines, and sprinklers when you design with Bethlehem joists. Extra dividends: strength, economy, and fast erection.

Like to have full details? Let us send you Booklet 553. It describes Bethlehem "S" series and "L" series joists, and includes standard loading tables.

BETHLEHEM STEEL

BETHLEHEM STEEL COMPANY, Bethlehem, Pa. Export Sales: Bethlehem Steel Export Corporation



## **Building Components**

Application and Specification of Materials and Equipment

## SELECTING FOOD SERVICE EQUIPMENT

Part 2 of 2

Last month's article outlined principles of food service planning such as space and layout requirements and basic criteria for equipment selection. Details and characteristics of several types of equipment were given. Part 2 covers several more types.

NOTE: All details from National Sanitation Foundation Standard 2, Ann Arbor, Michigan





STEAM COOKERY. Steam kettles and cookers are fast and economical in the preparation of large quantities of food. Where possible, equipment should be kept off the floor for easy cleaning. Kettles should be set lower than counter height for convenience in loading and unloading. Water and steam facilities should be conveniently arranged for use in cooking and cleaning. Drainage devices and facilities should be planned to eliminate hazards such as curbs, slick or uneven floors and the long flow of hot liquid which might splash on employes. Adequate ventilation for steam vapors should be provided. Left: Warren Township H.S., Indianapolis; Everitt I. Brown & Co., Architects; G. V. Aikman, Food Service Designer; steam kettles, Groen Mfg. Co.; steam cooker, Market Forge Co.; Right: Phelps Memorial Hospital, Kiff, Colean, Voss & Souder, The Office of York & Sawyer, Architect; B. H. Hubbert & Son, Inc., Kettle manufacturer



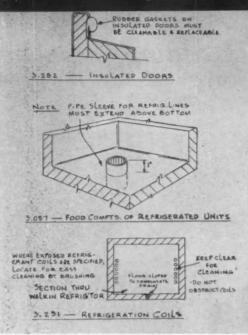






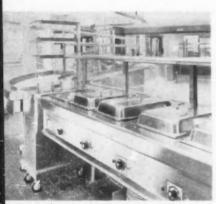
CONVEYORS have proved successful in reducing the time involved in moving dishes and food from one place to another in food service operations of all types. They are particularly useful in handling dirty dishes. Almost any conveyor scheme desired can be designed using custom or stock components or a combination of both. Types commonly used include live rollers or belt powered conveyors for moving materials long distances; gravity rollers which are efficient up to 12 feet; vertical conveyors which handle floor to floor movement; and overhead monorails for meat and heavy or bulky materials. Above: Addition, Hotel Fontainbleau, Miami Beach, Fla. A. Herbert Mathes, Architect; Irving Semel, Food Consultant; Straus-Duparquet, Fabricator

RANGES, BROILERS AND OVENS. Qualities to consider are: 1) speed of operation, 2) flexibility, 3) controllability, 4) economy of operation, 5) sanitation, 6) durability. Provision should be made for hoods or canopies which can be cleaned easily. Heavily insulated equipment minimizes kitchen heat and energy consumption. Interior linings of porcelain and exteriors of stainless steel allow easy cleaning. Service facilities must be considered in advance of installation as well as accessibility of equipment for repair. Union Carbide Building, Skidmore, Owings & Merrill, Architects; Howard L. Post, Consultant; Vulcan-Hart Corp., ranges, broilers, ovens; Hotpoint Co., electric fryer

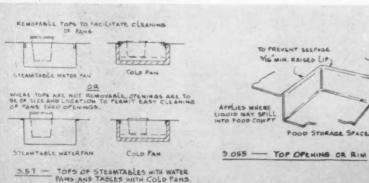


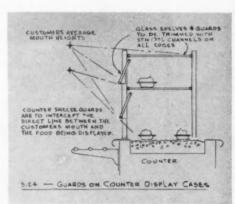


REFRIGERATORS should be laid out to allow a minimum amount of food handling and cross traffic. Walk-in type cold storage units for bulk foods, meat and other perishables should be located near the receiving area with preparation areas nearby. Floors should slope to a drain for condensate removal. Refrigerators for salads, beverages, ice cream, etc. are usually placed next to the serving line. For sanitation, the following must be considered: a) gasketing must be cleanable and replaceable; b) exposed refrigerator coils must be located for easy cleaning; c) shelving should be of closed tube or open angle construction. Above, right: New York Foundling Hospital, New York City; S. Blickman, Inc., Fabricator



HOT TABLES may be either custom designed or assembled from standard units. Warming cabinets should be well insulated to maintain the proper temperature. Electrical, steam, water and drainage facilities should be provided. Wall outlets should be provided in appropriate locations for portable units. Left: Cafeteria at Columbia University; S. Blickman, Inc., Fabricator. Electric hot food section in foreground is mounted on carriers to allow easy cleaning and to leave space underneath for portable carriers







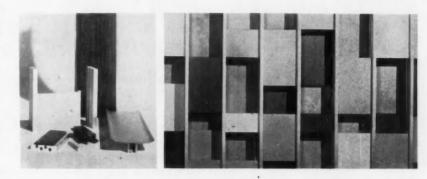
CAFETERIA LINES may be custom designed or assembled from standard units. Equipment should be constructed in accordance with National Sanitation Foundation Standards prepared by the Committee on Food Equipment Standards. Electrical, water and drainage facilities should be provided to the line. Be sure that materials and methods of construction are adequately shown and described in the drawings and specifications. Warren Township High School, Indianapolis; The Bastian-Blessing Co., Fabricator

## Aluminum and Plastic Components for Screens and Railings

Curtainscreen is a system of standard components in aluminum and plastic designed for exterior and interior screens and railings. The components are a coordinated group of interlocking, slip-fit extrusions—mullions, panels, spacers and glass stops.

Aluminum components are furnished in a variety of finishes, including plain (for anodizing or enameling), anodized, etched decorative designs, or laminated wood veneers. Plastic components are black, will be made available in colors later.

These standard components can be used either alone or in combination with other materials, such as panels of wood, glass, sheet plastic, or laminated glass fiber sheet. A special feature of the system is that its components can be used to form single or dual plane screens, for three-dimensional effects or for free-standing

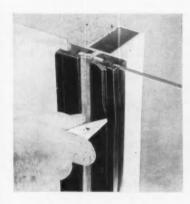


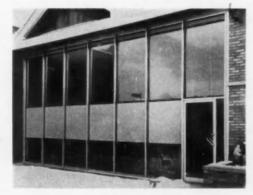
screens which must be finished on both sides. The aluminum panels are available in 4-, 6-, and 8-in. widths, and lengths up to 20 ft. Panels can be placed side by side for appearance of even greater width, and can also be placed end to end for greater length.

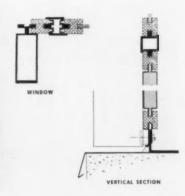
In exterior applications, *Curtainscreen* can be used to form solar screens, protective screens for walk-

ways and arcades, and screens for cooling towers or mechanical equipment. Typical interior applications include divider partitions, facing screens for walls and ceilings, and display partitions. A booklet describing and illustrating the complete Curtainscreen system in greater detail is available. Julius Blum & Co., Inc., Carlstadt, N. J.

## Factory-Fabricated Wall is Sealed by a "Zipper" Gasket







Zipperwall is a new wall system featuring a structural neoprene gasket and factory fabricated aluminum mullions, panels and windows. The "H" shaped neoprene gasket serves as the connector of most structural components. The gaskets are used as horizontal members, becoming an actual part of the wall framing. The gaskets transmit loads from glass and panels, and live loads imposed upon them, to the mullions.

Basic aluminum parts of the system are the mullions, sill and head runners and adapter angles. Only two clips and screws, at the top and bottom of each mullion, are used in assembly.

All parts, except for the slim mullions, are cut to size from stock lengths at job site. Mullions are delivered in factory fabricated lengths according to the architect's plans.

Infill components of glass, panel, sash or combinations, are "zipped" into the exposed opening of the weatherstrip with a special tool.

Joint sealing problems are obviated by the neoprene's ability to absorb expansion of infill components. Runners and mullions with matching flanges on the same plane leave no

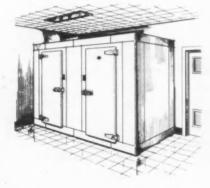
corner crevices which can become seepage problems.

This system is suited for either \(^1\square\)-in. glass or flanged 1-in. panels, although a larger gasket will be made available for thick glass. The 1-in. panels are formed from precoated steel insulated with an expanded perlite core.

The Zipperwall system accommodates Kawneer doors, concealed overhead closers or other Kawneer closers of the surface applied or overhead type anywhere in the grid. Kawneer

Co., 1105 Front St., Niles, Mich.
more products on page 214





### Walk-In Coolers and Freezers

Portfolio give 48 different installations in hospitals, laboratories, universities, schools and industrial plants. Plans, sections and perspectives are given along with a condensed specification list. Catalogs are available for detailed technical information on sectional, all-metal walk-in refrigerators. Information is included on interior accessories and refrigeration apparatus. A comprehensive specification guide also is available. Bally Case and Cooler, Inc., Bally, Pa.

### Axial-Flow Fans

Axial-flow fans for heating, cooling, ventilating, fume removal, and drying systems, are described in a new 16-page illustrated bulletin. Fans with direct-connected motors and designs with V-belt drive are covered. Construction details, optional equipment, specifications, tables of capacities and dimensions are included in the new bulletin AFF-61. L. J. Wing Mfg. Co., Linden, N. J.

### **Built-Up Roofing Manual**

The 52-page 1961 Barrett Built-Up Roofing Manual covers specifications for both pitch and asphalt applications on all types of roof deck. Emphasis has been given to the advantages of fiberboard roof insulation. The new manual also depicts many flashing details together with drainage and vent flashing systems and appropriate materials. Included are simplified illustrations and tables which enable architects to select materials appropriate to the type of bond required. Included are new roofing specifications which require a coated base sheet over all forms of roof insulation. Recommendations are offered for temporary roofing to protect new roof decks. Product News Section, Barrett Division, Allied Chemical Corp., 75 West St., New York 6. N. Y.\*

### Steel Tubing

Describes both seamless and electric welded steel tubing up to 7-½ in. o. d. by .375 in. wall in mechanical and pressure grades. Seamless carbon and alloy steel tubing is listed up to 7-in. o.d. in mechanical, pressure, aircraft mechanical and airframe grades. Additional material covers square, rectangular and other special shapes and fabricating and forgoing of tubing into finished or semi-finished tubular parts. Catalog CS-61, 8 pp. Ohio Seamless Tube Division of Copperweld Steel Co., Shelby, Ohio.

#### Metal Partitions, Compartments

Henry Weis Mfg. Co. has brought out three new catalogs featuring cabinet showers, toilet compartments and movable office partitions. Six new cabinet shower models, glass and vinyl shower doors, glass shower enclosures and receptors are described in the cabinet shower catalog. The toilet compartment catalog illustrates a line of plastic laminated toilet compartments as well as baked enamel and porcelain enamel compartments. Movable office partitions are featured in a third catalog. Henry Weis Mfg. Co., 226 West High St., P. O. Box 724, Elkhart, Ind.\*

#### Steel Windows and Screens

Complete line of steel windows available for commercial, monumental and industrial buildings is shown in a 40-page Ceco catalog, No. 1001-Q. Contains technical data on 11/2-in. heavy-intermediate windows, subframe construction, classroom windows, 11/4-in, intermediate windows, architectural projected windows and industrial windows. In addition, mechanical operators and screens are illustrated. Window sections and recommended installation details are given, supplemented by photographs of finished buildings. Department A, Ceco Steel Products Corp., 5601 West 26 St., Chicago 50, Ill.\*

### Ballasts for Fluorescent Lamps

Contains revised tables of prices and data for General Electric's full line of fluorescent lamp ballasts. Has sections on new Bonus Line and totally weatherproof ballasts, as well as applications and operating data on other indoor and outdoor ballasts. Cross-section dimensions, wiring diagrams, obsolete ballast replacement table, and installation instructions are included. 4 pp. General Electric Co., Schenectady 5, N. Y.

### Condulets

Condulets for hazardous locations and pertinent sections of the National Electrical Code are discussed in Bulletin 2722, a 60-page publication by Crouse-Hinds Co. Code articles are quoted, along with recommendations for meeting their requirements. Crouse-Hinds Co., Syracuse 1, N. Y.

#### Air Distribution

Condensed catalog of air distribution allows designers to survey the wide range of equipment designs, sizes, finishes, and applications available from Barber-Colman. Included in this 8-page catalog (F-4417-8) is information on new continuous line extruded aluminum ceiling diffusers and modifications to continuous line diffusers. Barber-Colman Co., 1300 Rock St., Rockford, Ill.\*

\*Additional product information in Sweets Architectural File

more literature on page 248



IF THE NEW GYM FLOOR BECOMES SLIPPERY.

## WHOSE REPUTATION WILL SUFFER?

Stop floor problems before they begin by specifying a floor maintenance program!

Only a year old, but the gym floor looks as if it has been around for at least ten years. Why? Maintenance products that weren't quite right couldn't save the new look. But try and prove to others that poor maintenance is at fault. Other possibilities are usually mulled over first. The wood floor was incorrectly installed. And so on ... ad infinitum!

This is why Huntington suggests that you specify a complete floor maintenance program for all the floors in the new building. And specify this complete program before the building is constructed; before people who are not experts ruin the floors. Our representative, the Man Behind the Huntington Drum, will be happy to assist you at no obligation. He has had much experience solving (and preventing) floor maintenance problems. And the wide range of Huntington maintenance products for all types of floors has been tested by both time and highly-skilled laboratory technicians. Look for our representative's name, address and telephone number on the back of our insert in Sweet's Catalog, or write us.



Please send the following:

- ☐ Your folder with complete floor maintenance specifications and descriptions of Huntington floor care products
- ☐ The new Huntington Gym Floor Mar
- ☐ Have your representative contact m

Year out this coupon and attack it to your firm letterhead for



Where research leads to better products... HUNTINGTON



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ARCHITECTURAL RECORD May 1961

Design for beauty and utility with an eye to economy too ...





Check the benefits your clients get when your design includes cloth towel cabinets in all washrooms.

- An end to litter, storage and disposal problems. Reduced maintenance and janitorial costs.
- Fewer plumbing repairs.
- Elimination of fire hazard.

One of your local Linen Suppliers will gladly install and service these units at modest cost. And, from then on, each washroom will be kept supplied with fresh, clean cotton toweling automatically. And, remember-your specification does not obligate your client to any particular service.

Service is by American Linen Supply Co.

the newly-built Prudential Federal Savings Building, Salt Lake City. Architect: Cunneen Co., Philadelphia, Pa.

For complete information, write to Linen Supply Association on your letterhead for this free Planning-for-Cloth Kit. Fully illustrated, it includes specifications for all continuous cloth towel cabinets.



Linen Supply Association of America

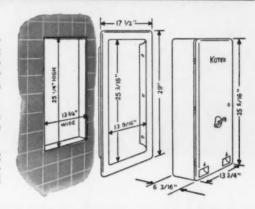
and National Cotton Council . 22 West Monroe Street, Chicago 3

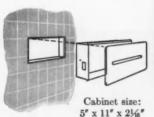


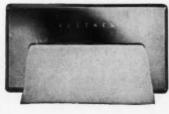
O KEEP PACE with the latest architectural designs, Kimberly-Clark has styled a brand new recessed dispenser for Kotex feminine napkins for rest room use in schools, offices, stores; industrial and public buildings. This unobtrusive, built-in vendor holds 63 individually boxed napkins. 33 vend from a single loading, 30 are held in storage.

These streamlined, sturdy, pilfer-proof vendors add a much appreciated service to any public building. They are available with either a five-cent or ten-cent coin mechanism.

Available in durable white enamel, satin chrome, gleaming polished chrome and stainless steel. Matching frame for recessed installation. (Other vendors that can be surface mounted are also available.)







## RECESSED DISPENSER FOR KLEENEX TISSUES

Holds full box of Kleenex 200's. Dispenses one tissue at a time. Mirror-chrome finish. Holes in back and side make it easy to fasten to studding.

For further details on how these attractive new recessed dispensers for Kotex napkins and Kleenex tissues can fit into your plans, see Sweet's Architectural File Cat., Section 27e/Ki. or write to Kimberly-Clark Corp., Dept. AR-51, Neenah, Wisconsin.

KOTEX and KLEENEX are trademarks of KIMBERLY-CLARK CORPORATION

## KIMBERLY-CLARK CORPORATION NEENAH, WISCONSIN

The best ideas are more exciting in concrete

## Decorative patterns in concrete give unity

Hospital, clinic, school, research laboratory—the many activities of the new Stanford Medical Center require 7 separate buildings. To bring this complex into one harmonious whole, ingenious use has been made of modern concrete. Precast grilles provide a strong light-and-shadow pattern over large areas. They also set a design theme which is repeated in bold relief on other concrete surfaces throughout the Center. The elegant beauty achieved gives dramatic evidence of concrete's esthetic versatility and its structural advantages. Today, more than one architect is acquiring a reputation through the creative uses of modern concrete.



## and beauty to new medical center!



Stanford University Medical Center, Palo Alto, California. Architect: Edward Durell Stone, New York, N.Y. Structural Engineers: Pregnoff & Matheu, San Francisco, California

continued from page 207

#### New School Unit Ventilator

School-Vent utilizes a novel, fulldamper system to provide positive. constant room temperature control for heating, ventilating and cooling: 1) a face-an-bypass insulated damper directs air through and around the heating coil according to comfort requirements; 2) an insulated antiwipe damper permits complete isolation of the coil to eliminate heat pickup from the coil; 3) indoor and outdoor dampers blend fresh and recirculated air. This full-damper system is designed to insure accurate temperature control with no delay between comfort demand and delivery. Modine's School-Vent heat with steam or hot water and cools with central-source chilled water. Five sizes up to 1500 cfm heating and cooling are available. The unit can be ceiling or wall mounted, partially and fully recessed or fully exposed. Modine Manufacturing Co., 1500 De-Koven Ave., Racine, Wisconsin.

#### Automatic Light Switching

Photo-electric control has been combined with time switching in a new automatic on/off control for lighting by Tork Time Controls. The photosensitive time control turns lights on whenever natural light drops to 2 to 4 footcandles. Momentary darkness, however, will not affect the switch. Automatic off switching means lights do not have to remain on overnight as with ordinary photo electric controls. Capacities go up to 4000 watts. Tork Time Controls, Inc., Mount Vernon, New York.

Prefabricated Shower Compartment Showerpack is a packaged shower unit which includes a precast terrazzo receptor, shower door and enclosure pieces of Napoleon Grey Marble. Carthage Marble Corp., Carthage, Mo.

#### Honeycomb Ceiling Panel

Metalcel is a steel honeycomb panel designed for illuminated ceilings with \(^3\)\_e-in. hexagonal cells and in sizes 2 by 4 ft, 2 by 3 ft, 2 by 2 ft, 2 by 1 ft, 1 by 3 ft and 1 by 1 ft. It is painted with two coats of baked white enamel or copper brazed finished and weighs 0.98 lb per sq ft. Metalcel Division, Fannon Products, 3000 East Woodbridge, Detroit 7, Mich.

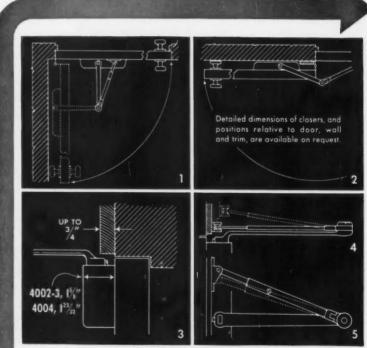
more products on page 218







Left: Nighttime operation; full recirculation. Center: Room air, outside air mixed. Right: Full outside air



### APPLICATION DETAILS

for the Modern LCN "Smoothee" Exposed Door Closer Shown on Opposite Page

As Demonstrated in Drawings Above:

- The LCN "Smoothee" takes less space than most doorknobs between door and wall.
- Degree of door opening possible depends mostly on type of trim and size of butt used.
- Arm of LCN "Smoothee" is curved to avoid conflict with almost any conventional trim.
- Joints in arm and shoe make it easy to vary the height of shoe as needed for beveled trim.
- Power of closer is increased or decreased by simply reversing position of shoe.

Complete Catalog on Request—No Obligation or See Sweet's 1961, Sec. 18e/Lc

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Canada: LCM Clasers of Canada, Ltd., P. O. Box 100, Port Credit, Ontario

## Modern Door Control by "SMOOTHEE" Door Closers WESTERN REGIONAL OFFICE, THE WESTERN AND SOUTHERN LIFE INSURANCE COMPANY, LOS ANGELES, CALIFORNIA Austin, Field & Fry, Architects LCN CLOSERS, INC., PRINCETON, ILLINOIS Application Details on Opposite Page



## SYLVANIA LIGHTING FIXTURES... First Aid for Production and Maintenance at Johnson

At Johnson & Johnson's New Brunswick, N.J. plant—the home of Band-Aid Adhesive Bandages—clean surroundings, fast inspection and ease of mechanical maintenance are essential.

To maintain high efficiency in the manufacturing, processing and packaging of Band-Aid Plastic Strips, Johnson

### VITAL STATISTICS

Johnson & Johnson, New Brunswick, N.J.
Fixture Type—Sylvania 1500 Ma Industrial Units
(Slotted Porcelain Reflector—10% upward component)
Lamp Type—Sylvania F96T12/CW/VHO (1500 ma)
Mounting Height—14'
Fixture Spacing—10'
Average Illumination—150 Footcandles

& Johnson recently installed new Sylvania industrial fixtures using Sylvania VHO Powertube lamps.

As a result, this production area now has 150 footcandles of quality illumination . . . and it was obtained at reasonable cost.

Sylvania's industrial fixtures using 1500 ma lamps have led to increased production, less waste and better overall efficiency in many plants.

If your production figures are not what you expect, take a close look at your lighting. And look to Sylvania fixtures to solve your lighting problems.

SYLVANIA LIGHTING PRODUCTS
A Division of SYLVANIA ELECTRIC PRODUCTS INC.
One 48th Street, Wheeling, West Virginia

## SYLVANIA

SUBSIDIARY OF

GENERAL TELEPHONE & ELECTRONICS





## plus the appropriate natural appearance"—architect

"Rilco laminated wood arches and beams gave us design flexibility plus the appropriate natural appearance," state the architects. "They blended in perfectly to create a warm, colorful and informal atmosphere." """Rilco laminated wood structural members are easily adapted to any design—church, school, residential or commercial. They gracefully span large areas—provide the warm, friendly feeling of wood without extra cost. Rilco field sales engineers will be happy to consult with you """Write Weyerhaeuser Company, Rilco Engineered Wood Products Division, W818 First National Bank Building, St. Paul 1, Minnesota. District offices: Linden, New Jersey; Fort Wayne, Indiana; Tacoma, Washington.





The Holden Museum of Living Reptiles, Detroit Zoological Park, Detroit, Mich. Architects: Charles N. Agree, Inc., Detroit. Rilco laminated wood arches and beams erected by Laco, Inc., Fraser, Mich.



## MORE THAN 300 REASONS WHY DUKANE SCHOOL SOUND SYSTEMS ASSURE QUALITY SOUND PERFORMANCE

REPUTATION-DUKANE engineering "know-how" in the field of school sound systems is widely recognized. Each school sound system is built with all the scientific quality control that modern industry commands. Perfection in quality sound reproduction and maximum functional utility are integral design features of every system, FLEXIBILITY-DUKANE modular construction provides for future expansion. Advanced electronic design eliminates costly custom design time and modification. There is a DUKANE School Sound System to meet every size school requirement. INSTALLA-TION AND SERVICE-Over 300 DUKANE Sales-Engineering Distributors across the nation assure customer satisfaction beyond the sale. From tailoring a school sound system to meet needs and budget, supervising installation, instructing personnel in operation to assuming the responsibility for satisfaction during the years of usage, DUKANE Sales-Engineering Distributors provide the final link between manufacturer and ultimate user that assures quality sound performance.



Three Channel System, Four microphone inputs, many deluxe extras. Serves up to 150 classrooms or areas. JUST A FEW OF THE COMPLETE LINE OF DUKANE SCHOOL SOUND SYSTEMS



Two Channel System, Three microphone inputs. For schools with up to 48 classrooms or areas.



Dual Channel System, Four microphone inputs. For schools with up to 75 classrooms or areas.

DUKANE

Dept. AR-51, St. Charles, Illinois

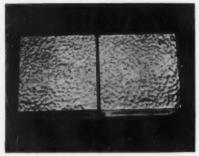
Write for Bulletin



## Product Reports

**Epoxy Fastens Anchor Bolts** 

Sika Epoxy Bonding Compound has been used in a new technique for positioning anchor bolts for the posts of railings on concrete structures. eliminating the necessity for placing these bolts within the formwork prior to pouring of concrete. First application was on the Oneida Lake Bridge at Brewerton, New York. The epoxy compound was applied both to a small portion of the concrete beam and to the steel plate to which the anchor bolts had been welded. When the epoxy became tacky, the plate was placed on the beam; no pressure was required. Sika Chemical Corp., Passaic, New Jersey.



**Bright Gold Coatings** 

Hanovia gold (23 k) coatings are being applied with increasing frequency for office buildings, bank fronts, stores and similar structures. The gold coating can be applied to porcelain enameled metals, stainless steel, tile glazed brick, structural glass, terra cotta. Coatings may be applied by brush, roller or spray, and decorative patterns are achieved by silk screening, rubber stamping or by rollers. The gold is suspended in an organic liquid; when this carrier is burned off, it leaves the gold film. Hanovia Liquid Gold Division, Engelhard Industries, Inc., 1 West Central Ave., East Newark, N. J.

Stipple Architectural Glass

A new translucent rough-textured plate glass with a stipple pattern surface is being produced in a %2-in. thickness for use in interior partitions. The stipple pattern is the second product to be added to the Pittsburgh Plate Glass line for interior partitions; the other product is a swirl pattern, rough plate glass. Pittsburgh Plate Glass Co., 632 Fort Duquesne Boulevard, Pittsburgh 22, Pa

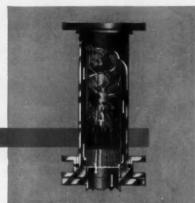
more products on page 222

## CLOGGING by high

wet-strength paper products is IMPOSSIBLE

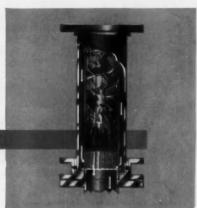
with the new FLUSH KLEEN® system from

pump at highest solids loadings.



## THE FLO-THRU STRAINER,

heart of the Flush Kleen system continuously permits only clear liquid to flow through the strainer into the



happen with the FLUSH KLEEN System

This clogging cannot





CLOGGED - Complete



122-D.

## SOLIDS NEVER REACH THE IMPELLER

Impeller handles only clear liquid. Shaft, bearings and motor are never subjected to severe strain and wear due to partially or completely clogged impellers. The life of a Flush Kleen system is therefore much longer than that of so-called non-clog type pumps. "Down time" due to clogging is eliminated and a quiet, smooth operating unit is assured.

For further information see your local Chicago Pump distributor or write Chicago Pump for Bulletin

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FOOD MACHINERY AND CHEMICAL CORPORATION HYDRODYNAMICS DIVISION

CHICAGO PUMP

622-M DIVERSEY PARKWAY . CHICAGO 14, ILLINOIS



HOME: Bright yellow Trafford tile roof. Promenade tile patio. Dark brown strytex panel wall.



FACTORY OFFICE: China blend corrugated panel. Office partitions in bright yellow and bone white flat sheets.

### "K&M"8 COLORED STRUCTURAL SHEETS

## The eye-appeal of color...the durability of asbestos-cement

Now, you can combine utility with decorative appeal by the use of "K&M" Asbestos-Cement Structural Sheets with the new KolorMate Finish.

These hardy, fireproof sheets retain all the ruggedness and durability of plain asbestos-cement sheets. However, 15 striking colors make them as good-looking as they are tough. They open up for you an unlimited range of decorative possibilities as siding, soffits, facades, marquees, office and shop partitions, and wall trim, to name but a few applications.

Under rigorous testing in K&M's research and development laboratories, these colors did not blister, peel, yellow or fade. Their KolorMate baked-on acrylic finish, developed exclusively for K&M, bonds securely to the surface. This smooth, semigloss finish won't crack or chip during installation . . can be scrubbed repeatedly without damage.

Write today for more information on "K&M" Asbestos-Cement Sheets with KolorMate Finish to: Keasbey & Mattison Company, Ambler, Pa. Dept. B-3451.



Keasbey
Mattison



LIBBEY-OWENS-FORD BUILDING, TOLEDO. ARCHITECTS: SKIDMORE, OWINGS & MERRILL. PHOTOS: HEORICH-BLESSING STUDIO, CHICAGO

## Indoors and Out, Terrazzo Paves the Way to Contemporary, Ageless Beauty

Trim, simple and clean, the L-O-F office building in Toledo offers the look of brisk efficiency associated with modern design. Yet its Terrazzo floor is ageless. Covering radiant coils (used for snow melting) outdoors, and basement area, as well as the entire lobby, 60,000 square feet of decorative Terrazzo offer a marble-hard, jointless surface that is virtually impossible to wear out. The pattern is a basic 6 x 3' rectangle, outlined with black dividing strips. Slip-proof-treated, requiring only wet cleaning (no refinishing, no

buffing needed), Terrazzo meets practical as well as aesthetic needs.

Co-starred is the lobby's mosaic wall—four million pieces of specially made blue tesserae individually placed in two 25 x 62 x 20' sections. Not only visually delightful, the mosaics are permanently easy to clean.

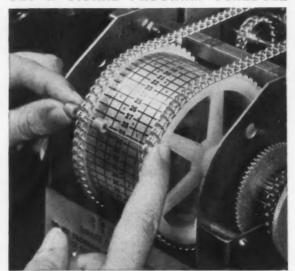
No pattern or situation is too difficult for Terrazzo. Specify any design you wish, in virtually any combination of colors. Free AIA kit upon request. Catalogued in Sweet's.



Member Producers' Council
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2000 K Street, N.W., Washington 6, D.C.

## HOW TO

## SET A SIGNAL PROGRAM SCHEDULE



## THE EASY WAY WITH A Cincinnati CLOCK AND PROGRAM SYSTEM

Push a roller on a pin—Your signal is set. It's that simple with a Cincinnati System! Anyone can set a signal program schedule in minutes. No tools are required. And, pins and rollers are re-usable.

Contrast this simple procedure with any other system.

You'll also find features like wall or flush mounting and the exclusive swing-out construction make a Cincinnati System simple to install and maintain. There's also an automatic 12 hour reset correction and spring reserve to help overcome power failure and assure continuous, accurate signal and clock operation.

Get the complete story by contacting your nearby Cincinnati representative; or, send for your free copy of the "Time Systems Handbook" covering "Clock and Program" and "Fire Alarm" systems.

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City\_\_\_

please send my new "Time Systems Handbook."—A basic guide to clock and program

systems.

Name \_\_\_\_\_\_Address \_\_\_\_\_

Organization \_\_\_\_\_

\_ Position\_\_\_\_

State

## Product Reports



#### **Combination Fixture**

Curtis AllBrite Ventro-Lux combines a lighting troffer with a high capacity Anemostat air diffuser. The troffer uses a CALux lens to conceal lamps as well as provide light diffusion. The air diffuser distributes air horizontally along the ceiling to eliminate drafts and uncomfortable temperature changes. Silhouette of the fixture is 6 in. or less. The two units are installed separately to eliminate trade conflicts. Curtis Allbrite Lighting, Inc., 6135 W. 65th St., Chicago 38, Illinois.

#### New Line of Fan Coil Units

AIRditioner fan coil units are available in 11 different types up to 1500 cfm capacity for mounting on floor, wall or concealment in the wall. One of the new features, offered as optional equipment, is an automatic push-button lubrication system. Quiet operation is insured through rubber-pad mounting of motors, low-speed fans with shock-absorbing bearings, and insulation and mastic to deaden noise. Modine Manufacturing Co., 1500 DeKoven Ave., Racine, Wisconsin.

### Commercial Refrigerators

The Raetone line of commercial reachin refrigerators, freezers, undercounter refrigerators, beverage coolers and water stations has been redesigned to be in full compliance with the National Sanitation Foundation standards and to provide a number of features improving operation and maintenance. These include: 1) four inches of insulation in cabinets, 2) larger, rounded interior corners, 3) heavy-duty pan slide and shelf supports, 4) tubular-type, 6-in. adjustable legs, 5) electric condensate vaporizer to eliminate need for floor drains, 6) self-closing hinges and magnetic catches. Raetone Commercial Refrigerator Corp., Plymouth Meeting, Pa.

more products on page 226



## THE BEST OF THE LOW-PRICED STEEL DOORS

Priced and constructed for use in light industrial and commercial buildings, and housing.

Who doubts that quality can be achieved at low prices? Isn't that just what American industry is famous for?

Steel used in BUDGETLINE doors is 20 gauge rather than 18 used in custom-contract doors. But BUDGETLINE in-stock doors are still fully welded and completely flush with no seams showing at front, back or edge. And, they're available for immediate shipment!

You'll want to study the AETNA BUDGETLINE catalog which contains complete door and frame drawings and specifications. Use coupon to write for your free copy.

AETNA STEEL PRODUCTS CORPORATION, 730 FIFTH AVENUE, NEW YORK 19, N. Y. Other Aetna products: Aetnapak custom-standard steel doors and frames, Aetnawall partitioning systems.

730 Fifth Avenue, New York 19, N.Y. Please send free catalog of AETNA BUDGETLINE in-stock steel doors, frames and hardware,

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Duplex apartment at Princeton University, Architects: Ballard, Todd & Snibbe, New York, N.Y. Painting Contractor: George Campbell & Co., Flushing, N.Y.

## THE MAN FROM DEVOE HAS BEEN TO PRINCETON!

This 8-story apartment building will house Princeton University Junior Faculty members and their families in a magnificent setting overlooking lovely Lake Carnegie. Obviously, the Architects saw the need to take full advantage of all the natural beauty in the site . . . with skillful use of form, materials and color!

As plans for color progressed, Phil Fogarty, local Devoe Architectural Representative, offered every help needed from his complete service to expedite professional consideration by the architects and the painting contractor.

Today, a total of 350,000 square feet in this building is being covered by long-lasting, easy-to-maintain, quality Devoe Paints . . . selected because of their demonstrable superiority. Choices

consisted of: Vinyl Flat, Alkyd Flat and Alkyd Trim Enamels for interior walls and ceilings, and Devoe All-Weather House Paint for parts of the exterior trim.

Like Phil, the Devoe Architectural Representative in your area is ready to shoulder a big load for you with his consultation service for architects. This is his full-time job . . . and there is no cost or obligation to you. Call on him for help through the new Devoe Library of Colors system, for example. It offers over 1,000 colors, each of which is available in exterior as well as interior finishes. Its color chips duplicate actual colors; it assures you of laboratory-accurate color matching and mixing. Take advantage of this service for your next industrial, commercial, institutional or residential project.



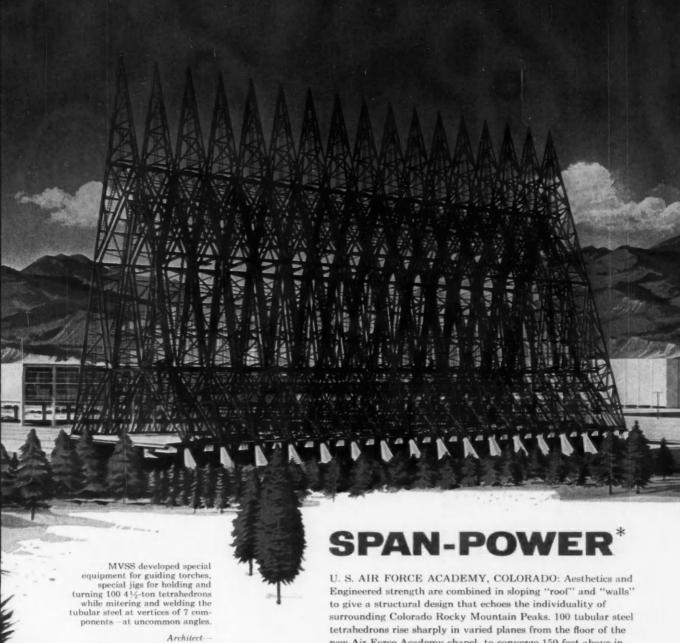
DEVOE DEVOE & RAYNOLDS COMPANY, INC.

A Subsidiary of Merritt-Chapman & Scott Corp. ATLANTA . BOSTON . CHARLOTTE, N.C. . CHICAGO . CINCINNATI . DALLAS . DENVER HOUSTON . LOS ANGELES . LOUISVILLE . NEW YORK . PHILADELPHIA . STAMFORD, CONN. AND IN OTHER PRINCIPAL CITIES

Philip L. Fogarty, MAN FROM DEVOE, headquartered in New York City. THE MAN FROM DEVOE in your area will work with you and your staff on color selection, and on such factors as costs, usage, maintenance and climate conditions, and traffic. He'll build you a color reference library. His services are without cost or obligation.







Skidmore, Owings & Merrill Chicago

General Contractor

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new Air Force Academy chapel, to converge 150 feet above in 17 spiry peaks. 100 of these massif-like modules, each 75 feet long and weighing 41/2-tons, were fabricated to exacting government specifications by MVSS in 20 weeks.

\*MVSS HAS IT 1100 men and their manpower . . . six completely equipped fabricating plants . . three erection companies . . . generate MVSS span-power.

Steel tetrahedrons surfaced with aluminum panels are the architectural essence of the chapel—which Air Force officials term "the commanding structure on the campus". Upon completion, 1500 cadets . . . Protestant, Catholic and Jewish, will worship within its three sanctuaries.

## MISSISSIPPI VALLEY

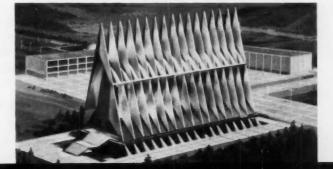
STRUCTURAL



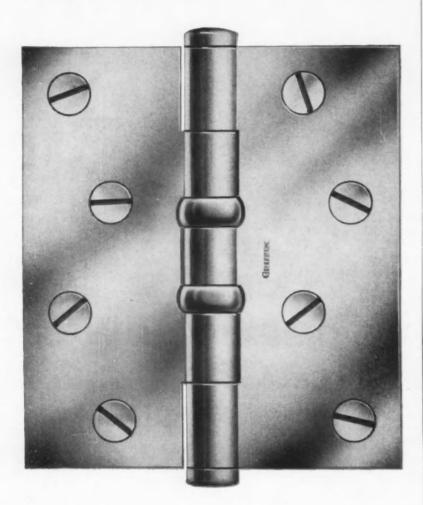
STEEL COMPANY

Six Strategic Plants . Chicago (Melrose Park) . St. Louis, Mo. Flint, Michigan . Lansing, Michigan . Decatur, Illinois . Chattanooga, Tenn.

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# GRIFFIN

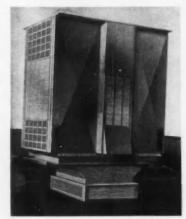


## HINGES for DOORS of AVERAGE FREQUENCY USE

Full mortise, ball bearing, template hinge with non-rising pins for medium weight interior or exterior doors of average frequency use. Made of wrought steel, planished and plated or bonderized and primed for painting. Also available in solid brass, bronze or stainless steel with stainless steel pins. Wide throw steel hinges available when clearance is required. All hinges conform to Federal specifications.

## GRIFFIN MANUFACTURING COMPANY · ERIE, PA.

## Product Reports



## Roof-Top Air Conditioning Unit

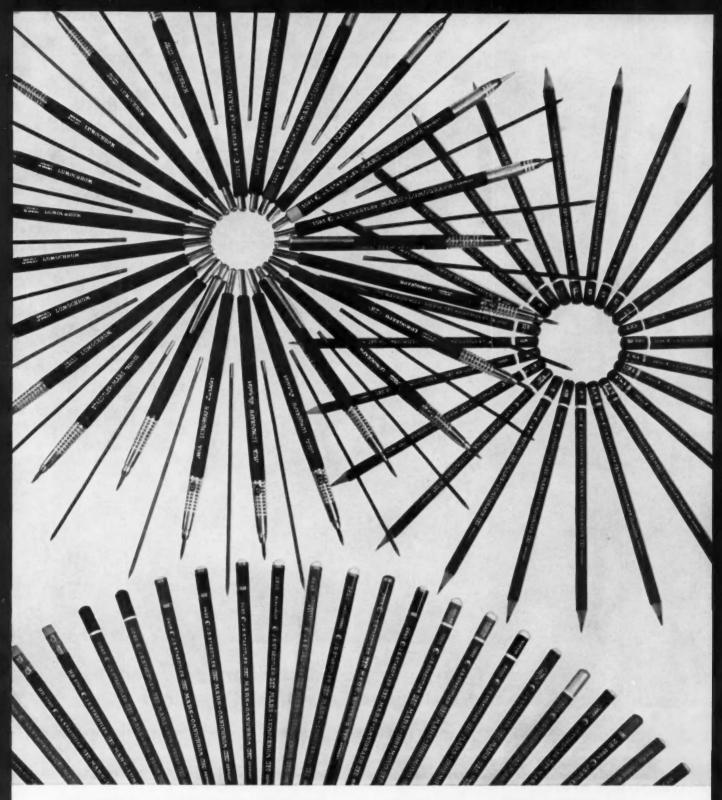
A new roof-mounted heating, ventilating and air conditioning unit for stores, office buildings and other commercial structures delivers either 7½ or 10 tons of cooling combined with heating capacity from 204,000 to 340,000 Btuh. Conditioned air may be ducted or distributed through a specially designed diffusing head which projects below the ceiling surface. The unit employs a remote compressor-condenser. Lennox Industries, Inc., Marshalltown, Iowa.



### Electroluminescent Lamps

Westinghouse has announced the availability of Rayescent lamps in sizes up to 30-in. square in a variety of colors including green, orange, blue and yellow. Individual lamps may be multicolored and in practically any two-dimensional shape. Lightweight aluminum fixtures are available for mounting. Intensity of the light may be varied by means of a simple dimming device. Surface brightness is approximately 10 footlamberts at 600 volts, 60 cycles. Westinghouse Electric Corporation, Lamp Division, Bloomfield, New Jersey.

more products on page 236



# ALL MARS - ALL TOPS

.... all imported from West Germany, made to meet the highest standards of professionals.

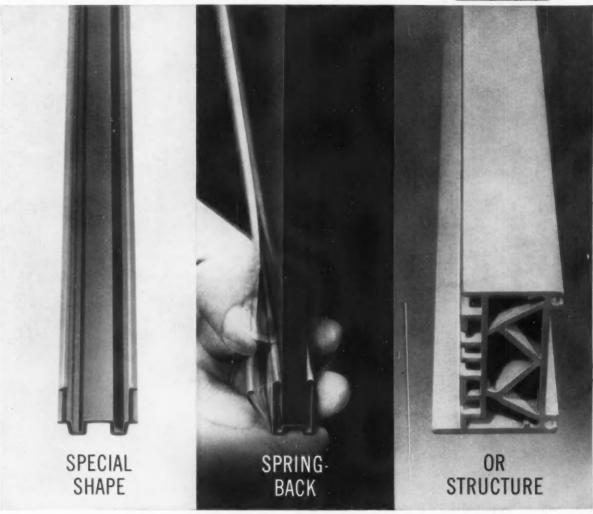
the pencil that's as good as it looks

MARS
J.S. STAEDTLER, INC.

Mars products are available at better engineering and drafting material suppliers everywhere.

Each of these extrusions of rigid Geon by Crane Plastics, Inc., Columbus, Ohio, is in use for various architectural applications—chiefly windows. B.F. Goodrich Chemical Company supplies the rigid Geon vinyl.





# Look how you can solve design problems with extrusions of rigid GEON vinyl

These extrusions show how the properties of rigid Geon lend themselves to solving different design problems. The special shapes show how detail can be reproduced—and it is easy to produce a long, smooth part, straight out of the die.

Other extrusions demonstrate how the springiness of thinner-walled extrusions gives you a spring-back characteristic for weather-stripping or rattle-proofing applications. Still others show the structural possibilities—how rigid Geon provides load-carrying strength without weight.

At the same time, each extrusion brings you all the other advantages of vinyl—unusual abrasion resistance, resistance to chemicals, self-extinguishing properties and electrical advantages. In every case there's the opportunity to mold color right in.

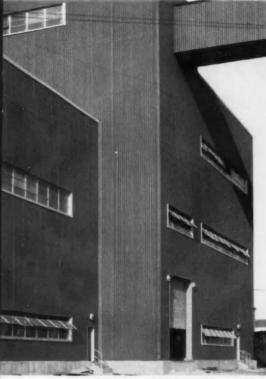
How can these extrusions solve your problems? We'd be glad to help you answer this question. Write Department ND-3, B.F.Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio.
In Canada: Kitchener, Ontario.

# **B.F.Goodrich Chemical Company**

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DELAWARE, LACKAWANNA & WESTERN R.R., BUFFALO, N. Y.

maintenance-free walls and roofs in lasting



It seems altogether fitting that H. H. Robertson Company, who invented protected metal roofing and siding many years ago and developed it into a long-lasting, maintenance-free product, should be the only manufacturer to duplicate these benefits in color. Color GALBESTOS is basically the same as well-known standard GAL-BESTOS. Asbestos felt is bonded to steel with molten zinc, and then impregnated with asphalt and given an outer waterproof coating. But in the case of Color GALBESTOS, the weather coating is a thick, hot factory-applied layer of colored synthetic resin developed by Robertson research. Standard colors are RED, BUFF, GRAY, BLUE, LIGHT GREEN and DARK GREEN with the same advantages of long-life and resistance to fire, corrosion and weather characteristic of the familiar black and maroon GALBESTOS. Use the coupon to write for literature and photograph book in full color.

## ROBERTSON **COLOR GALBESTOS**

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-Robertson Thain Ltd., Ellesmere Port, Cheshire Robertson-Irwin Ltd., Hamilton, Ontario Edmonton, Alberta



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NAME COMPANY

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For cabinet doors . . . for fine furniture . . . for heavy doors

The EPCO family of Magnetic Catches are designed to meet the varied needs of the building, cabinet and furniture industry. Each features "teuch" closing and secure holding power. Each is self-aligning to an enlarged strike plate and is designed to mount in diverse ways simply and quickly. Each is built to present a handsome, unobtrusie appearance and to last a lifetime.

- · Full power lifetime magnets
- · Self-aligning to enlarged strikes
- · Easy and quick to install
- · Wide variety of mountings
- · Handsomely encased



FREE 20 PAGE CATALOG
On the complete EPCO line
of magnetic and friction
catches, E-Z glide track and
glides, and drawer and door
pulls will be sent on request.

SEE SWEET'S CATALOG For the complete EPCO line under Architectural File No. 18g-En and Light Construction File No. 7a-En.

# THE ENGINEERED PRODUCTS CO.

P.O. BOX 118 FLINT, MICHIGAN PHONE CEdar 9-8689



560 Magnetic cabinet catch. Heavy duty, self-aligning alnico lifetime magnet. Aluminum or copper-



600 Round magnetic catch press fits into 5/8" bore in shelf or frame. Aluminum case, self-aligning to round strike.



1002 Magnetic catch with plastic case, lifet i m e, self-aligning magnet. Mounts in a variety of ways.



5 7 0 Magnetic Catch for furniture. Lifetime magnet, selfaligning to cushion strike, copper-tone finish.



602 Round magnetic catch press fits into 7/8" bore in door. Aluminum case. Selfaligning to enlarged strike.



555 Snap-in Magnetic catch for metal cabinets. Spring tension holds in stamped-out opening. Self-aligning ceramic magnet.



591 Heavy duty magnetic cabinet catch offers varied mountings. Overcome door warpage, misalignment. Aluminum case.



1000 Magnetic catch with plastic case, lifetime, self-aligning ceramic magnet, Universal application.



593 Magnetic catch of extra heavy holding power to assist door closures for complete closing. Mounts in various ways.



592 Extra heavy duty magnetic catch for heavier doors, controls door warpage. Dual action case attracts from either side.



1001 Magnetic catch with plastic case, lifetime ceramic magnet, self-aligning to enlarged strike. For mounting on door.



594 Magnetic door stop and holder for large doors. Lifetime magnets are selfaligning to enlarged strike.



X-ACTO Refill Blade KNIVES AND KNIFE SETS From 59c to 56 00



# POWERED SCAFFOLDING

for your

EXTERIOR ...

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MAINTENANCE PROBLEMS

A POWERED ROOF TRACK SYSTEM— CARRIAGE AND SWING PLATFORMS

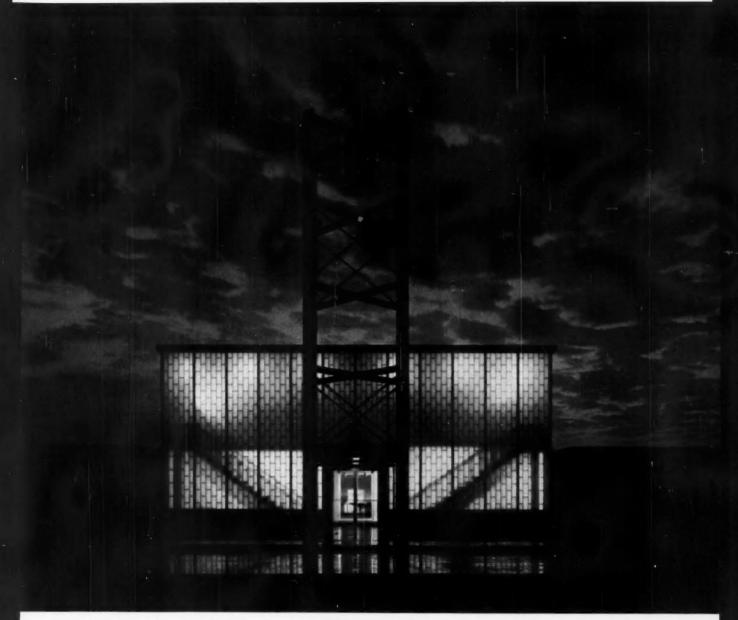
**FEATURES:** Carriage — Swing Platform runs on narrow gauge continuous track around perimeter. Track switches for roof storage.

WRITE FOR POWER SCAFFOLDING and "ROOF RAILER" brochures, engineering data and installations.





2100 N. Albina Ave., Portland, Oregon



Built with translucent Kalwall: First Missionary Church, Berne, Indiana. Architect: Orus O. Eash, A.I.A.; Contractor: Habegger Construction Co.

# To help you do bold new things with light ... Kalwall translucent walls

In creative hands, light is "a many-splendored thing."

And with translucent Kalwall you can translate this "many-splendored thing" into design, most imaginatively and dramatically.

You get softly diffused light with Kalwall Translucent Walls — light that's shadowless and pleasantly glare-free.

You also get great structural strength. For lightweight as Kalwall is (1.5 lbs/sq ft), it is so strong that no intermediate support is required. Shatterproof. Weather-tight. Available in panels up to 4' x 20', white or colored — with a choice of modern, functional patterns produced by aluminum grid cores. Write for details on this new way to "build with light."

## KALWALL CORPORATION

Dept, B-51, 43 Union Street, Manchester, N. H.



Kalwall lights church interior evenly - no "hot spots."



Carrier's new 38AA Condensing Unit—With legs, this model offers a height as low as 30% inches—ideal for roof-top use. Unit consists of a compressor with hermetically sealed motor; an air-cooled condenser; conveniently grouped electrical controls and terminals; and three fans. Cabinet is constructed of heavy-gauge steel with baked, green enamel finish.

# NEW 15-TON CONDENSING UNIT WITH LOW SILHOUETTE

for commercial and industrial air conditioning!

Now Carrier broadens its line of refrigerating units with this 15-ton Model 38AA Condenser. Three factors make it ideal for roof-top installation—low silhouette, light weight and the upflow discharge of powerful fans that eliminate a wind deflector. These fans are the propeller draw-thru type which draw maximum quantities of air evenly across the coil to utilize full condensing capacity.

This model is available with or without a capacity control which unloads two cylinders, providing  $\frac{2}{3}$  capacity for light load operation. Capacity reduction lowers operating cost and, when used with Carrier fan-coil units, can improve humidity control. With or without capacity control, only one refrigerant circuit is required—an advantage in reducing installation costs.

Your Carrier dealer will be glad to give you complete information about this new 15-ton Condensing Unit. He offers a complete line of equipment second to none to meet your client's requirements most efficiently and economically. You'll find him listed in the Yellow Pages. Call him. Or write Carrier Air Conditioning Company, Syracuse 1, New York.





## HAS ADDED VERSATILITY -

# TO MODERN FLOOR AND ROOF CONSTRUCTION

\*joist-ol'o-gy, n. (As Webster should have defined it) The art or science of designing and building more economical structures through the use of open web steel joists.

Architects and engineers have found that steel joists have given them practically a free hand in the design and construction of today's buildings. These lightweight, space-saving structural members have been adapted to virtually every size and style of building, whether it's one story or twenty, ultra-modern or ultraconservative.

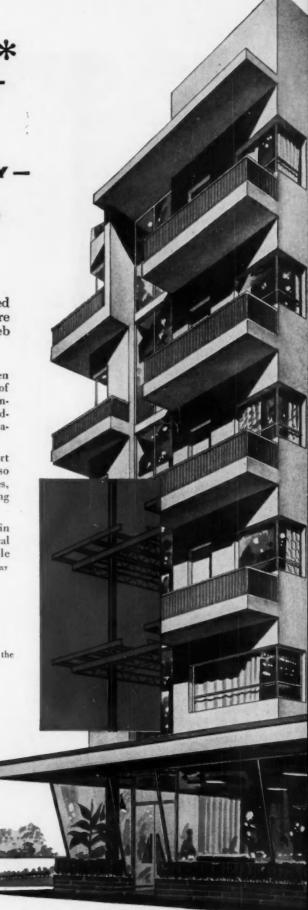
Steel joists have done more than provide high-strength support for floors and roofs. They lend themselves so handily, and so economically, to the incorporation of overhung roofs, cornices, balconies and other architectural embellishments into building design.

With material costs and erection time figuring so prominently in construction plans these days, steel joists still offer the practical answer to the need for economical, versatile, easy-to-handle structural materials.



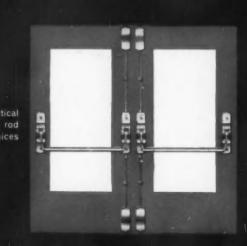


Another in a series of advertisements placed in the public interest by the STEEL JOIST INSTITUTE. DuPont Circle Bldg., Washington 6, D.C.



rim devices

"the <u>safe</u> way out" in stainless steel







# Von Duprin, 66

• Quality engineered . . . quality appearance . . . quality operation. That's the Von Duprin 66.

For enduring beauty and lasting service, the job calls for Von Duprin 66 in stainless steel. You quickly sense the excellent quality of this device . . . its clean, tasteful appearance will harmonize with your finest buildings.

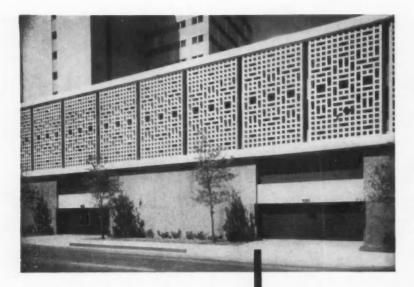
Rim, mortise lock and vertical rod models are furnished with a smart new series of matching outside trims. Type 66 devices are also available in bronze.

Write for your copy of Bulletin 581 . . . full details on construction, function and accessory items.





VONNEGUT HARDWARE CO. • VON DUPRIN DIVISION 402 West Maryland Street • Indianapolis 25, Indiana



Upward-acting, all-metal grilles that block intrusion when closed, without cutting off light, air or vision . . . coil quickly out of the way above the opening whenever desirable . . . and complement the beauty of today's most distinguished buildings and architectural designs

# Kinnear Steel Rolling Grilles

Built of steel, aluminum or bronze, to fit any doorway or other opening — with motor or manual control — for face-of-wall or under-lintel installation — made by the makers of . . .



#### The KINNEAR Mfg. Co.

FACTORIES: 1860-80 Fields Avenue Columbus 16, Ohio 1742 Yosemite Avenue San Francisco 24, Calif.

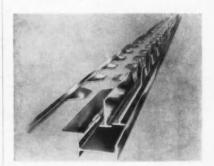
Offices and Agents in All Principal Cities

## Product Reports



#### Movable Wall System

In the new Forecast Series movable wall system each element of the partition is clearly defined by change in plane and contrast in color. (Conventional movable walls often have unwanted visual lines dictated by the manufacturing processes. Two types of panel are used-unit type and removable face type. Universal posts provide for rearrangement of panels without disturbing adjacent units. Both series are 21/4 in. thick. Seven standard post design variations are available and the base and ceiling trim can be recessed, flush, or projected. Perimeter sound seals, fully cushioned door frames, sound tight posts, and packaged panels are provided. Mills Co., 965 Wayside Road, Cleveland 10. Ohio.



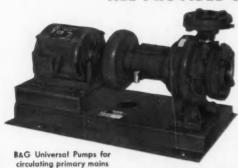
#### Machine for Castellated Beams

Automated machinery has been developed by Waller International Corp. for the production of castellated (open-web) structural beams of steel or aluminum. Production involves two steps: cutting of the castellated profile by acetylene or other gas and assembly by welding, with or without height-extending spacers. Up to three beams can be cut at one time with only one operator. Cutting speed is from 16-20 in. per minute for three beams. Waller International Corp., Dept. F., Industrial Center, Crystal Lake, Ill.

more products on page 244



# SPACE HEATING ...DOMESTIC WATER HEATING ...SNOW MELTING ALL PROVIDED BY A B&G Hydro-Flo system



B&G Booster and PD Booster Pumps supply individual zones

B&G Monoflo Fitting



Stapleton Houses, Staten Island, N. Y.
Owner: The New York City Housing Authority
Architects: Ballard, Todd and Snibbe
Mechanical Engineers: Carlson & Sweatt
Mechanical Contractor: H. Sand & Co.

This example of contemporary mass housing employs hydronic heating at its versatile, economical best. Space heating, domestic water heating and snow melting are all effected by means of circulated hot water. Primary and secondary pumping, as conceived and developed by B&G engineers, makes possible this triple-function system.

Where multiple buildings or multiple zones are to be heated with circulated water, this pumping method materially reduces the pump horsepower required, improves heat control and saves fuel.

This installation is basically a two-zone primary distribution system with 3 secondary heating zones, 1 secondary domestic water zone and 1 secondary snow melting zone in each building. The space heating risers are of the B&G up-and-down Monoflo type, using 3,303 Monoflo Fittings.

Write for free booklet which gives detailed information on this more efficient, more economical method of heating with water.



# BELL & GOSSETT

Dept. GQ-32, Morton Grove, Illinois

Canadian Licensee: S. A. Armstrong, Ltd., 1400 O'Connor Drive, Toronto 16, Ontario

# The O'Keefe Centre

for the Performing Arts

TORONTO, ONTARIO



New 3200-seat theatre will "provide Toronto with a multi-purpose entertainment centre capable of meeting all tastes with the best facilities available."

T. E. Arkell, President

# AEROFIN INSTALLED

Modern smooth-fin design of Aerofin coils permits ample heat-exchange capacity in limited space — permits the use of high air velocities without turbulence or excessive resistance.

Aerofin performance data are laboratory and field proved. You can safely specify Aerofin coils at full published ratings.

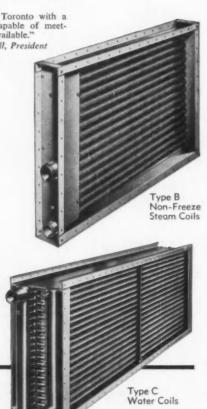
# AEROFIN CORPORATION

101 Greenway Ave., Syracuse 3, N.Y.

Aerofin is sold only by manufacturers of fan system apparatus.

List on request.

ENGINEERING OFFICES IN PRINCIPAL CITIES





# Structurally efficient!

EGSCO® insulated metal wall panels in Colorgard are architecturally effective for all building types

Whether the building design is industrial, institutional or commercial, the EGSCO system of interlocking metal wall panels offers simple, low cost and fast erection, ample insulation, pleasing wall configuration and built-in contemporary color finish.

For most modern buildings the extreme panel lengths available eliminate unsightly horizontal panel laps. Fasteners are exposed to neither view nor weather. This, coupled with factory caulking of vertical joints, eliminates any weak point of entry for weather corrosion.

The shimmering beauty of Colorgard is protected by Peelcote, a strippable polyethylene skin, until erection is complete.

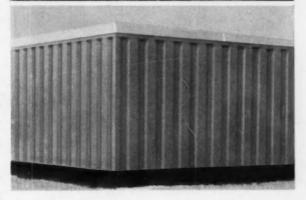
EGSCO engineers provide the architect and engineer with structural standards to reduce drawing board time. Specify EGSCO for a sure bet. For complete information see Sweet's File 3a/Sm or write for Bulletin 61W.

## **ELWIN G. SMITH & CO., INC.**

Manufacturers of EGSCO® Metal Wall Products
Pittsburgh 2, Pa.

BOSTON • CHICAGO • CINCINNATI • CLEVELAND • DETROIT TOLEDO • NEW YORK • PHILADELPHIA • PITTSBURGH

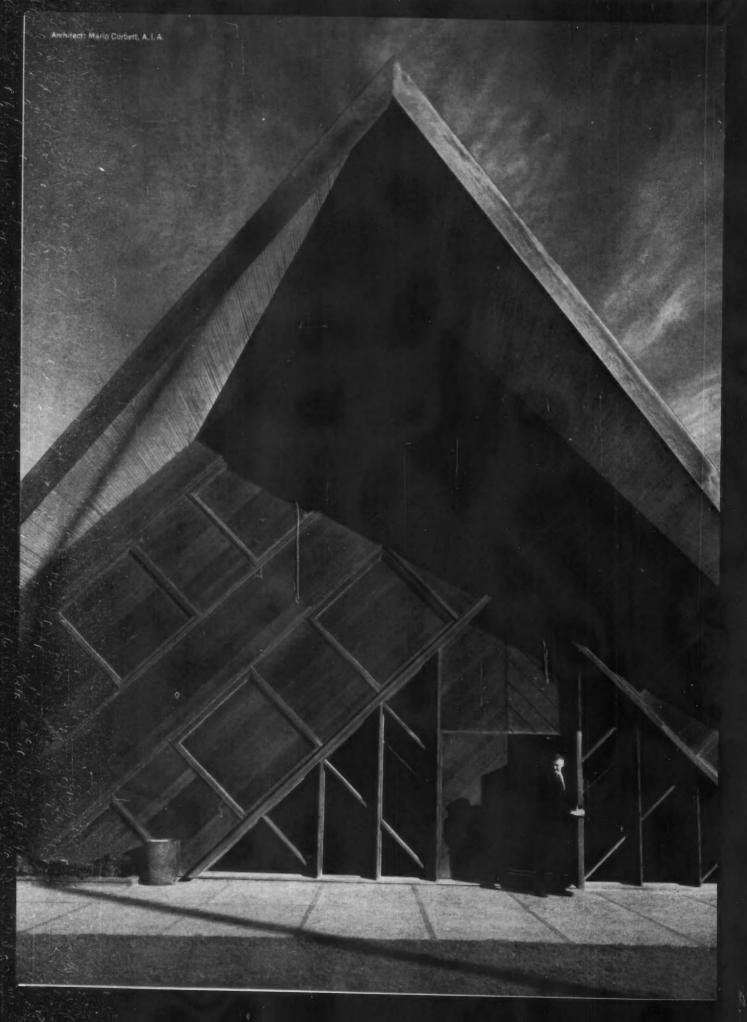




(top) EGSCO insulated wall panels with Colorgard in tan and gold were erected on this recently completed Williamsport, Pa., plant of The M. W. Kellogg Company, where the Power Piping Division is located, including engineering, research and field erection and the manufacture of power piping systems. Engineer and architect is Lester B. Knight and Associates, Inc., Chicago.

(middle) This is the new, modern Pittsburgh office of Carson, Pirie, Scott & Co., nationally known wholesale distributors of floor coverings. The architecture is enhanced by EGSCO Shadowall panels in Colorgard Gold. The architect is J. Kenneth Myers; the contracting engineers are Mellon-Stuart Co., both of Pittsburgh.

(lower) A close-up view of a curtainwall of EGSCO Contourwall in Colorgard Green. The panels form the colorful insulated metal wall for a penthouse on the roof of a modern factory-type building.



# REDWOOD GIVES THE ARCHITECT UNUSUAL FREEDOM OF **EXPRESSION**

Among the most stimulating examples of contemporary architecture

are ecclesiastic structures of California redwood.

And little wonder. For redwood's versatility seems to invite

innovation and reward ingenuity. In this striking



church, for example, unfinished saw-textured redwood was

used throughout . . . for siding, for encasing the beams, for paneling the chancel wall and

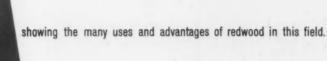


choir loft, even for the skylight grilles. It is hard to imagine



effectively. Write Department A-3 for CRA's new 24-page

brochure, "REDWOOD IN ECCLESIASTIC ARCHITECTURE,"



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# The real cost can be lower with a quality system

At first glance, using Wood Fibered Plaster Neat with Metal Lath looks like the expensive way to do the job. But when it's a perfect job with no complaints or expensive "extras", you've really lowered your client's costs.

Start by selecting Gold Bond Diamond Mesh Lath—it's strong and accurately sized. Specify a scratch coat of Gold Bond Wood Fibered Plaster to provide the strongest base. Then a sanded brown coat and smooth trowel finish will complete a job that will please even the most particular client.

This quality system has proved itself to costconscious architects everywhere, who have found that it pays to spend a little more on materials, maintain their production schedule, and save a lot

on "touch-up" work and future maintenance. Ask your Gold Bond® Representative for the full story. National Gypsum Company, Buffalo 2, New York.



a step ahead of tomorrow

# Here's another colorful innovation



# created with Ceramic Veneer through-wall grilles

With perforated facades of Ceramic Veneer, you can create functional beauty in buildings of all types. You are not limited in your selection of colors; you have many smart designs from which to choose ... and Federal Seaboard will custommake grille units of your own design. Through the use of color, form and lustrous ceramic finish, the perforated facades and solar screens you design can be as distinctive as they are practical. Visibility with the right amount of privacy, sunlight with sun control, beauty that's within your budget - all this you can achieve with throughwall grilles of versatile Ceramic Veneer. Write today for solar screen and color guide brochures. Without charge we will gladly furnish construction detail, data, advice and estimates on preliminary sketches involving Ceramic Veneergrilles, plain surfaces or polychrome panels.



Schering Corporation's Union, N. J. Plant Administration Building, designed and built by Walter Kidde Constructors, Inc. Ceramic Veneer through-wall units are Federal Seaboard design FS-E custom-made with cross-members added to back of grille. Exterior is a lustrous pure white with base and sides of cross-members a dark brown. For the interior, Ceramic Veneer grilles and cross-members are pure white.



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Your Raynor Distributor
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opening, as well as
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mechanical or
construction
problem.



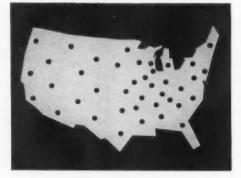
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Factory trained installation men . . . craftsmen who are specialists in the installation of overhead type doors, assuring lasting satisfaction to you and your client.



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### Product Reports

#### Patterns for Prestressed Beams

Prestressed concrete beams are being cast in reinforced fiber glass plastic forms to give a surface texture and design in a technique that insures exact dimensions and smooth surfaces. A recent example is a series of 28-ft beams for a suburban Minneapolis high school designed by Matson and Wegleitner, Architects. Plastic forms developed by Archer-Daniels-Midland Co. eliminated a number of problems experienced heretofore with reinforced plastics. One of these problems-the plastic's tendency to shrink and warp due to steam curing plus heat given off by concrete-was solved by a complex method of bracing the mold and through the use of an ADM polyester resin. To assure a smooth, troublefree mold face, a special gel coat was applied. Archer-Daniels-Midland, 700 Investors Building, Minneapolis 2, Minnesota.



#### **Prestressing Anchorage**

A new, simple system for post-tensioning concrete eliminates several time-consuming steps: Instead of special bolts, the Atlas System uses nails to hold the coil anchor and plate firmly in position. In addition, pockets for shims or nuts are eliminated through reusable rubber thimbles. The anchorage uses standard 7-wire strand of %- 1/10- or ½-in. diameter. Its small size allows very thin members to be post-tensioned without the necessity of unsightly thickened edges or ends. Atlas Service Corp., 14809 Calvert St., Van Nuys, California.

#### Air-Cooled Condensers

High capacity air cooled condensing units for split system installations are being made available by *Chrysler Airtemp* in 10- and 15-hp sizes. Both condensing units use a 5-cylinder compressor. All safety controls are reset at the thermostat. Both units are designed for simple field modification to serve as heat pumps. *Chrysler Airtemp*, *P.O. Box 1037*, *Dayton 1*, *Ohio*.

# B CONDENSING UNITS WITH THE FANDAIRE DESIGN





Now Fandaire Condensing Units are available in a full range of sizes from 3 HP through 90 HP – complete with the Fandaire air-cooled condenser and single, dual or multiple compressors.

Units use the original circular design that incorporates exclusive Yuba fintube with its high heat-dissipating efficiency. Every degree of temperature drop is fully used as the circular design approaches true counterflow—where the coolest air is in contact with the coolest gas. Its powerful fan pulls air in from the sides where it is as much as 4° cooler than air from below. Warm used air is pushed up and away. As air is captured from any direction, any breeze increases the unit's capacity.

The Fandaire Condensing Unit has the highest ratio of capacity to actual size of any condensing unit on the market today.

Installation is easy—no field assembly required. Factory assembly is included in the price. Get full details today on the *big* condensing units with the Fandaire design. Special quotes on custom units.

3-30 HP (single compressor) 10-60 HP (dual compressor) 60-90 HP (multiple compressors)



specialists in circular air-cooled condensers and condensing units

YUBA FANDAIRE DIVISION Tulsa, Oklahoma

YUBA CONSOLIDATED INDUSTRIES, INC.





# . . . whenever you want them, wherever you want them — with Celluflor

The typical office interior today is streamlined to the nth degree. Big open work areas — a bare minimum of walls,

Where, then do you put the miles upon miles of wire a modern office building needs now — and the additional miles it's sure to need tomorrow? More and more architects are reaching this logical conclusion: In Cellustor.

Since Celluflor provides wiring raceways 6" o.c. under every square foot of floor area, no worker need ever be more than inches away from electrical, telephone, and dictation service outlets. Whenever a tenant needs a new connection, he has an electrician drill through the floor and pull up the wires — anywhere in the room! Circuits can be changed — new service outlets installed or relocated — without costly alterations.

Many buildings with a future use this floor with a future — including Union Carbide office building, New York City, and Kaiser Center office building, Oakland, California.

There are other advantages of Celluflor — savings of steel, footings, construction time, and overhead. See Sweet's — or write for Catalog 270.



ENGINEERED PRODUCTS DIVISION

# INLAND STEEL PRODUCTS COMPANY

Dept. E, 4033 West Burnham Street Milwaukee 1, Wisconsin

## ROOF VENTILATORS WALL LOUVERS





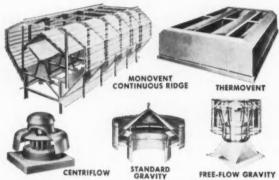




FREE-FLOW FAN

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48 E. South St., Akron 11, Ohio

MEMBER AIR MOVING & CONDITIONING ASSOCIATION, INC.

## Office Literature

#### Air Conditioning Controls

Describes General Electric's complete line of definite purpose contactors and starters for air conditioning and refrigeration. New 30- and 40-amp contractors are pictured and discussed along with 50- and 60-amp starters and contactors. Another section describes overload relays, custom control panels, and a step starting accessory available for air conditioning applications. Load data, coil data, outline numbers, wiring diagrams, and weights of devices are included. Bulletin GEA-7316, 8 pp. General Electric Co., Schenectady 5, N. Y.\*

#### **Extruded Aluminum Railing**

Econo-Rail aluminum tubular railing for office buildings, institutions, hospitals, industry and schools is covered in details, mechanical drawings and illustrations. The double wall construction tubing is installed with non-ferrous fittings and fasteners. Railings are completely factory assembled with all necessary fastenings, ready to erect. Newman Brothers, Inc., 670 West Fourth St., Cincinnati 3. Ohio.\*

#### **Precast Concrete Data Sheets**

File folder of Gemset Technical Data Sheets (A.I.A. File 4-K-1) is an aid for architects in detailing applications for exposed aggregate precast concrete. A series of transparent vellum tracing sheets provide scaled details for a number of applications, including panels, spandrels, window surrounds, copings, soffits, lintels, steps and strimgers. Other similar sheets illustrate details relevant to hoisting erection, anchoring, joining, and paving. Indiana Limestone Co., Inc., Bedford, Ind.\*

#### Metal Ties for Masonry Walls

Investigation of Continuous Metal Ties as a Replacement for Brick Ties in Masonry Walls is a study prepared by Armour Research Foundation which compares the relative merits of the brick header course in wall construction with continuous wire reinforcement. Studies were made of flexural strength vertically, compressive strength and water permeability. 44 pp. Cedar Rapids Block Co., Cedar Rapids, Iowa.

more literature on page 256



The National Biscuit Company's Fair Lawn, N.J., plant, showing exterior walls of Natco Dri-Speedwall tile.

## NABISCO RECIPE FOR A BEAUTIFUL, MODERN BAKERY

26,624,850 lbs. Natco Dri-Speedwall tile 3,272,992 lbs. Natco Vitritile Modern architectural design



Natco Dri-Speedwall tile. Nominal face size 5½" x 12"

Almost 30 million pounds of Natco structural clay tile products went into the construction of Nabisco's new Fair Lawn, New Jersey bakery.

Exterior walls were constructed of Natco Dri-Speedwall tile. This tile is designed to form a series of interior "V-type" channels. Any small amount of moisture that may penetrate through the exterior mortar joints is directed through these open channels and is drained off through weep holes at required locations.

Interior walls of smooth, attractive Natco Vitritile—a ceramic glazed clay facing tile—assure *complete* sanitation in mixing, baking, packaging and other inside areas.

For complete information write for catalog S-61.

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PRC Toplite offers new-found light control in nearly all types of building structure such as schools, churches, factory buildings and art galleries.

PRC Rubber Calk is applied during manufacture to ensure a positive weather tight seal and provide maintenance free performance.

PRC Rubber Calk and PRC Toplite are but two of the many products PRC manufactures for the construction industry.

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Build client satisfaction by specifying a smokestack that is *immune* to corrosion regardless of excess condensate.

- Installs easily with no need for special equipment or highly skilled workmen
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Now available in 8 harmonizing colors. Write for new 4color bulletin No. 210.



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## CONNOR'S "LAYTITE" EDGE GRAIN

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- A LESS EXPANSION AND CONTRACTION
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AVAILABLE IN REZILL-CUSH\* SYSTEM—
"CONTINUOUS STRIP"—REGULAR STRIP

See SWEET'S FILE Specs. #13J/CO.

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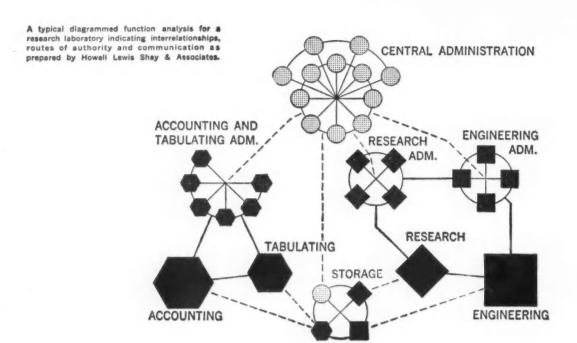
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at Howell Lewis Shay & Associates Architects · Engineers

On every project that this leading Philadelphia firm is called upon to design - whether a school, hospital, industrial or commercial building-an analytic study of the client's overall functions and operational requirements is their primary concern.

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Here is one more proof that DODGE REPORTS ARE A VALUABLE COMMUNICATIONS LINK BETWEEN THE ARCHITECT AND THOSE WHO SERVE HIM.

#### DODGE REPORTS

CONSTRUCTION NEWS & STATISTICS DIVISION 119 West 40th Street, New York 18, N. Y.





# Yours to Use!

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We at American Sterilizer know little about current concepts of general building design and construction, except that they advance at a headlong pace.

But we DO have the largest single fund of knowledge concerning the design, function and essential workflow of those specialized technical departments which make a hospital different from any other Architectural problem.

This knowledge is yours to use in developing, for your hospital designs, Technical Departments which assure the ultimate in patient protection with simplified staff work and lower operating costs. This specialized information is gathered, evaluated, applied and supported by a group activity at Amsco which is not elsewhere equaled . for size, completeness or professional stature.

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Working with a knowledge of hospital problems and procedures gained from equipment installations in more than a hundred countries of the world . . . Amsco Research investigates, evaluates and recommends techniques for the highest standards of patient protection.

Six full-time Nurse Consultants assure the vital Nurse Consultants quality of practicality in every procedure involving personnel training.

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A professionally staffed Methods Engineering department incorporates the efficiencies of work simplification and workflow on the basis of Method - Time - Measurement studies.

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Development Engineering devises equipment to carry out advanced procedures with the maximum degree of automation, dependability and economy.

Technical Attached to each of Amsco's 19 Branch Offices, Projects Technical Projects Engineers are specialists in Engineers selecting, assembling and presenting the detailed data which will most effectively solve the Technical Department problems of your hospital design.

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This service includes the preparation of room plans, specifications and roughing-in prints to provide the maximum in function and utilization of space for your specific project.

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Amsco's supervision of the total department installation assures the Architect that his approved concepts will be fully achieved.

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When the department goes into service, equipment demonstrations and thorough technique training by Amsco's Nurse Consultants provide the staff knowledge that will maintain the efficiencies of the integrated design.

Preventive Maintenance The continued high performance of Amsco Technical Department equipment is assured by the soundest of production engineering and by the only national Preventive Maintenance staff in the technical field.

This unique combination of services and skills will greatly lighten your design load for such hospital departments as.
Central Service, Surgical Suites, Solution Rooms, Infant Formule,
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Literature or consultation is freely available from our Technical Projects Division



It's new...
it's big...

it's strong...

extra-heavy ½ inch USS American

Welded Wire Fabric is now available with ½" diameter wires spaced as close as 2" on centers in both directions! These new areas of steel, plus the many time-tested advantages of Welded Wire Fabric, make it the ideal structural reinforcement for all types of construction—one-way slabs, two-way flat plates or flat slabs, walls, slabs on grade, etc.

### Consider these advantages:

- American Welded Wire Fabric is produced from cold-drawn high tensile steel wire. This wire is carefully produced to conform to the requirements of ASTM Specification A82-58T. The minimum tensile strength is 75,000 psi and the minimum yield point, as defined in this specification, is 80% of the tensile or 60,000 psi. Actually, cold-drawn steel wire has no yield point in the conventional sense—no sudden excessive elongation. This means that cold-drawn wire tends to resist stress practically throughout its entire strength range without revealing any sudden elongation such as develops in a typical hot-rolled bar. This physical advantage of cold-drawn wire makes it the ideal concrete reinforcement.
- 2. American Welded Wire Fabric is completely machine prefabricated by electrically welding all wire intersections. The strength of these welds conforms to ASTM Specification A185-58T which requires that the minimum average shear value of the weld in pounds shall not be less than 35,000 multiplied by the area of the longitudinal wire. This high-strength connection assures positive "mechanical anchorage" in the concrete. In fact, laboratory tests reported in the ACI Proceedings, Vol. 48, April, 1952, show that this anchorage is so good that fantastically high bond stress values from 1000 psi to 2700 psi are computed using conventional bond stress theory!
- 3. American Welded Wire Fabric is prefabricated with greater accuracy than can normally be relied upon in field work. The wires may not vary more than 1/4" center-to-center than the specified spacing. This assures correct placement and distribution of the steel. Also, the wires are drawn to the very close tolerance of 0.003".
- American Welded Wire Fabric requires very little on-the-job tying. Large prefabricated sheets are shipped to the job and placed as a unit. This eliminates thousands of ties and results in important labor savings.

The representatives of American Steel & Wire will be pleased to discuss with you the many advantages and applications of Welded Wire Fabric. Just contact American Steel & Wire, Dept. 1150, 614 Superior Ave., N.W., Cleveland 13, Ohio.

USS and American are registered trademarks

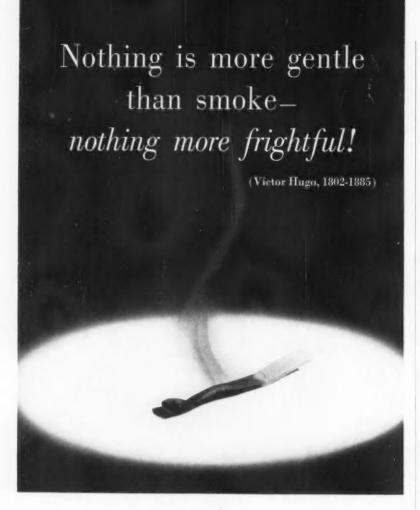


American Steel & Wire Division of United States Steel

Columbia-Geneva Steel Division, San Francisco, Pacific Coast Distributors
Tennessee Coal & Iron Division, Fairfield, Ala., Southern Distributors
United States Steel Export Company, Distributors Abroad

254

# Velded Wire Fabric 1/2"



The smoke that heralds an unfriendly fire is indeed frightful. But it may also be useful! There are many places where the smoke itself can be utilized to give an automatic signal so swiftly that fire can be smothered while still in its smoldering stages.

ADT automatic smoke detection and alarm service goes into action at the first tell-tale puff of smoke, and by being faster than the flames, can save untold damage in areas such as:

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The system operates automatically to call emergency forces and to sound a local alarm. In duct systems it will also act automatically and simultaneously to shut off air-circulation fans and close dampers.

For information on the full line of ADT Protection Services, write Dept. J for free booklet (Canada and U.S. only). Or call an ADT security specialist, listed in your phone book under Fire Alarms and Burglar Alarms.

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## Office Literature

#### **Hollow Metal Doors**

Hollow metal doors with matching frames and hardware are described in a 32-page catalog No. 2040-I. Featured is a new welded door with no seams on either face or edges. Other styles are shown in flush and panel designs, as well as louvered doors. In addition, transom frames, side-lights, and hardware are described and construction details given. Ceco Steel Products Corp., Department A, 5601 West 26 St., Chicago 50, Ill.\*

#### Specifications for Insulated Decks

Recommended product and application specifications for structural insulating roof deck have been released by the Insulation Board Institute. Chapters cover product description, methods of testing, minimum physical requirements and application instructions for use in open-beam-ceiling roof construction. When used with customary roof coverings, both 2- and 3-in, insulating roof deck units meet the FHA requirement of 0.15 U value for ceilings. Robert A. LaCosse, Technical Director, Insulation Board Institute, 111 W. Washington St.. Chicago 2, Ill.

#### Double Duct Air Blender

Catalog 1100-B107 describes a new twin-duct air blender for high velocity, double duct air conditioning systems. How the new ceiling and underwindow air blenders operate without the use of motors, piston operators, or mechanical linkage is explained with their design features. The catalog gives detailed engineering information on specifications and noise levels as well as selection and performance data with dimensional drawings. Worthington Corp., Air Conditioning Division, Technical Publications Section, Ampere Station, East Orange, N. J.\*

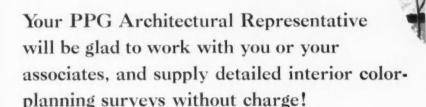
#### Packaged Steam Generators

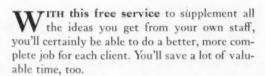
Bulletin O. AA-2760 is a simple, easy-to-read presentation of the new AA line of packaged steam generators ranging in horsepower from 20 to 600. Model AA features a newly-designed low pressure air atomizing oil burner, new multi-orifice ring type gas burner and other engineering improvements. Ames Iron Works, Inc., Oswego, N. Y.

\* Additional product information in Sweet's Architectural File

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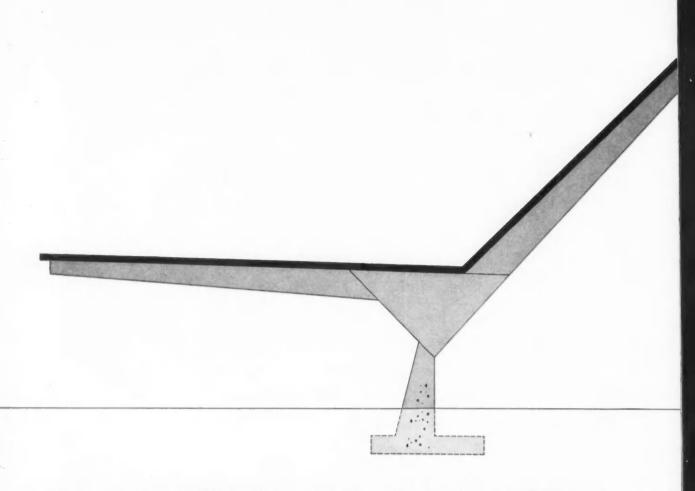
# PITTSBURGH PAINTS

PAINTS . GLASS . CHEMICALS . BRUSHES . PLASTICS . FIBER GLAS



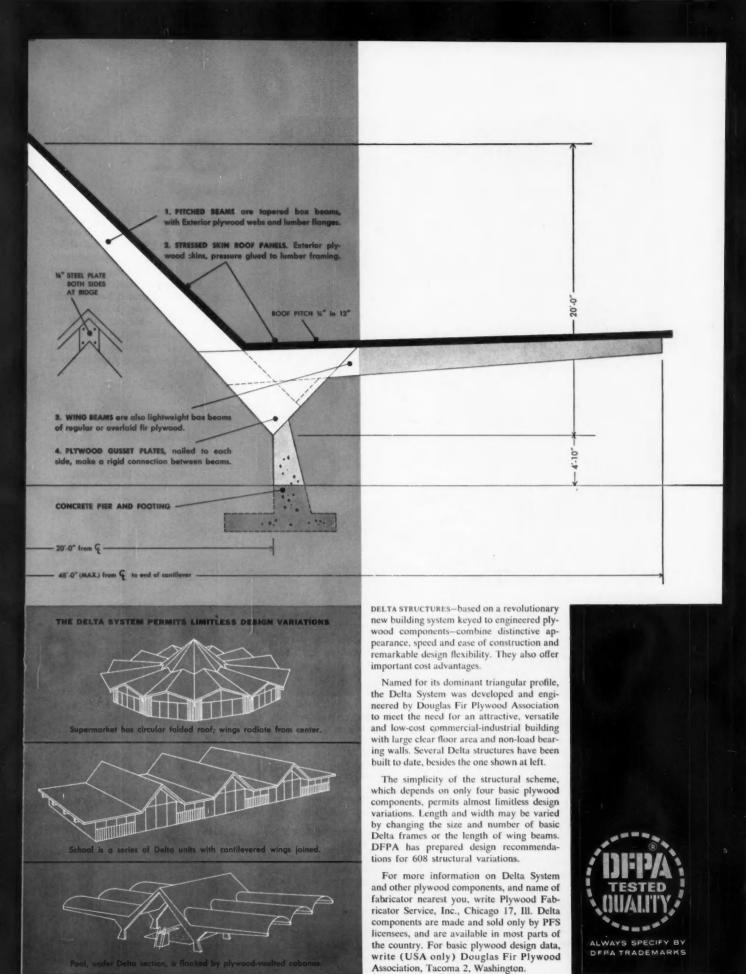
PITTSBURGH PLATE GLASS COMPANY

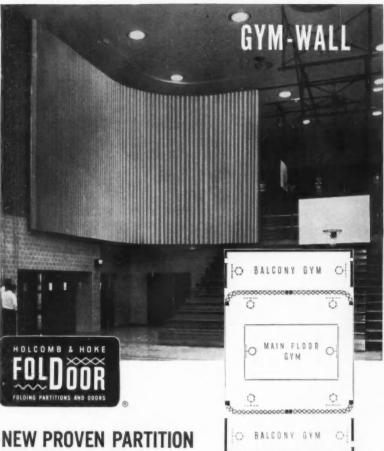
IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



the most exciting ideas take shape in fir plywood







NEW PROVEN PARTITION handsome, rugged, economical

Shown above is the largest, curved, power-operated Gym-Wall folding partition ever installed. It consists of two pairs of partitions, each partition measuring 127' wide and 20' high when extended! When the gym is not in use for major athletic events, the press of a button quickly converts it into three separate areas for girls' and boys' gym classes, band practice, speech and drama rehearsals or other group activities.

Not only does Gym-Wall make efficient use of floor space, but it's built to take the slams and buffets of indoor sports. Under Gym-Wall's colorful vinyl covering, the rugged steel frame is supported with extra rows of hinges and is covered with building board panels and steel plates. Here is one of the most rugged, and economical, folding partitions available for multiple activity areas.

Warren Central High School, Indianapolis Architect: Everett I. Brown Company

A New Warranty, the strongest ever issued on folding partitions, backs Gym-Wall and all other models in the complete Foldoor line. In addition to the standard one-year warranty on the entire unit, hinges, trolleys and trolley pins are guaranted for an additional 9 years, while the track is guaranteed for the life of the installation.

For decorative, see-through space dividers, ask for information on FiliGrille, Holcomb & Hoke's new styrene grillework for interior or exterior use.

ADDRESS	
FIRM	
NAME	
Please send complet  GYM-WALL Foldo  Have job in plann	or 🗌 FiliGrille grillework
HOLCOMB & HOKE N 1545 Van Buren St.,	

### The Record Reports

On the Calendar

7-10 International Conference and
Office Equipment Exposition,
sponsored by National Office
Management Association—
Sheraton-Jefferson Hotel and
Kiel Auditorium, St. Louis

12-14 South Atlantic A.I.A. Regional Conference; theme, "Continuing Education"—Winston-Salem, N.C.

14-18 Annual meeting, National Fire Protection Association—

Detroit

16-18 Building Research Institute Spring Conferences—Shoreham Hotel, Washington, D.C.

17-20 Annual convention, Royal Architectural Institute of Canada; theme, "The Building Community"—Chateau Frontenac, Quebec City, Canada

22-24 Fifth annual convention, Construction Specifications Institute—Commodore Hotel, New

York City

22-26 41st International Conference and Office Exposition of the National Office Management Association—Queen Elizabeth Hotel and Show Mart, Montreal

23-25 1961 Conference on Church Architecture, sponsored by the Church Architectural Guild of America and the Department of Church Building and Architecture of the National Council of the Churches of Ghrist with cooperation of the Pittsburgh Chapter, A.I.A., and the Pittsburgh Architectural Club—Penn-Sheraton Hotel, Pittsburgh

June\_

5-7 First Inter-governmental Symposium on Urban Renewal, organized by the United Nations Economic Commission for Europe's Housing Committee—Palais des Nations, Geneva, Switzerland.

5-9 Ninth National Plastics Exposition, sponsored by the Society of the Plastics Industry, Inc.—The Coliseum, New York City

25-30 Annual meeting, American continued on page 268



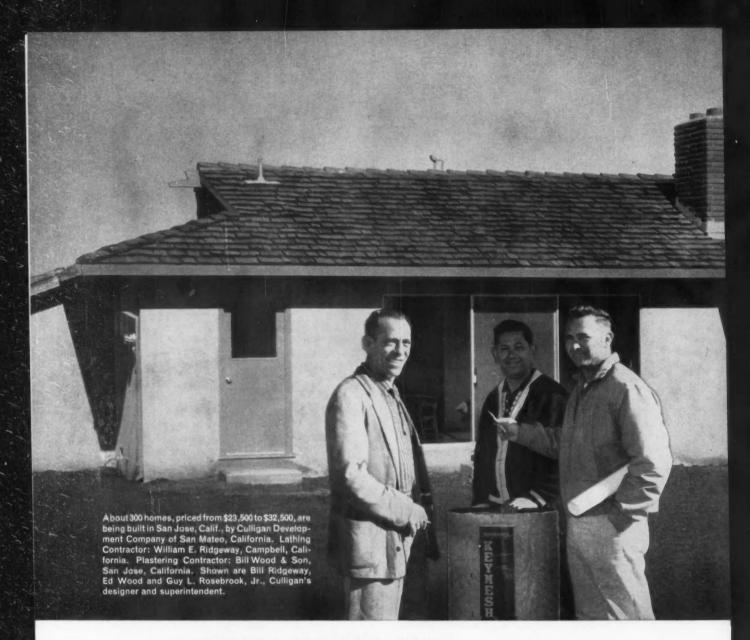
New design, texture and color effects for walls! Architects have yet to find a more workable and idea-stimulating material than portland cement stucco. No other wall material lends itself to such individualistic treatment. Handle it with a bold sweep . . . or a subtle touch. Sculpture it. Comb it. Or achieve color and texture with an exposed aggregate like the panel featured above. Use it with traditional or contemporary designs. Use it for entire walls . . . or for dramatic accents. White portland cement stucco in fresh and intriguing forms is being used by more and more architects as today's modern material for modern living.

For the newest in homes...

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#### PORTLAND CEMENT ASSOCIATION

... A national organization to improve and extend the uses of portland cement and concrete



# "INSTANT BACKING WITH

# One-Step KEYMESH® Paperbacked

says Thomas Culligan of Culligan Development Company, a leading Northern California builder

"It's waterproof paper, belly band wire and wire mesh lath all in one," says Mr. Culligan.

"Just once around the house with this Keymesh Paperbacked Lath and the walls are all ready to be stuccoed. "I'll admit, saying that it gives us 'Instant Stucco Walls' is somewhat of an exaggeration. But because it does allow my subs to go so quickly, we'll have the walls in this project done faster than any we've ever built."



# Lath for Stucco Walls,"



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# **KEYSTONE STEEL**& WIRE COMPANY

PEORIA, ILLINOIS

CHEMICAL PROOF FLOORS WITH A PLASTIC BLANKET



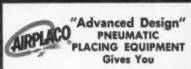
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# Sealant...



for all the wide open beauty of curtain wall design...

weather sealing problems

Hornflex Sealant compresses, stretches and flexes with wall movement—yet keeps a solid weather seal at all temperatures. Bonds lastingly to aluminum, glass, steel, concrete and stone to form a watertight seam that stays put.

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AMERIC apart from the crowd

Italic desk No. 7066F as used in Old American Insurance Company's new Kansas City offices

ITALIC BY OF ... desks designed for those who are not quite satisfied with "look-alike" offices ... for those who want individual styling without "custom-built" cost. Unique flexibility of design affords individual choice of equipment in a wide range of colors and finishes. If, for the buildings you design, you want furniture that's tastefully different—see Italic at your nearby GF branch or dealer showroom. Or write Dept. AR-14 for full color literature. The General Fireproofing Company, Youngstown 1, Ohio.

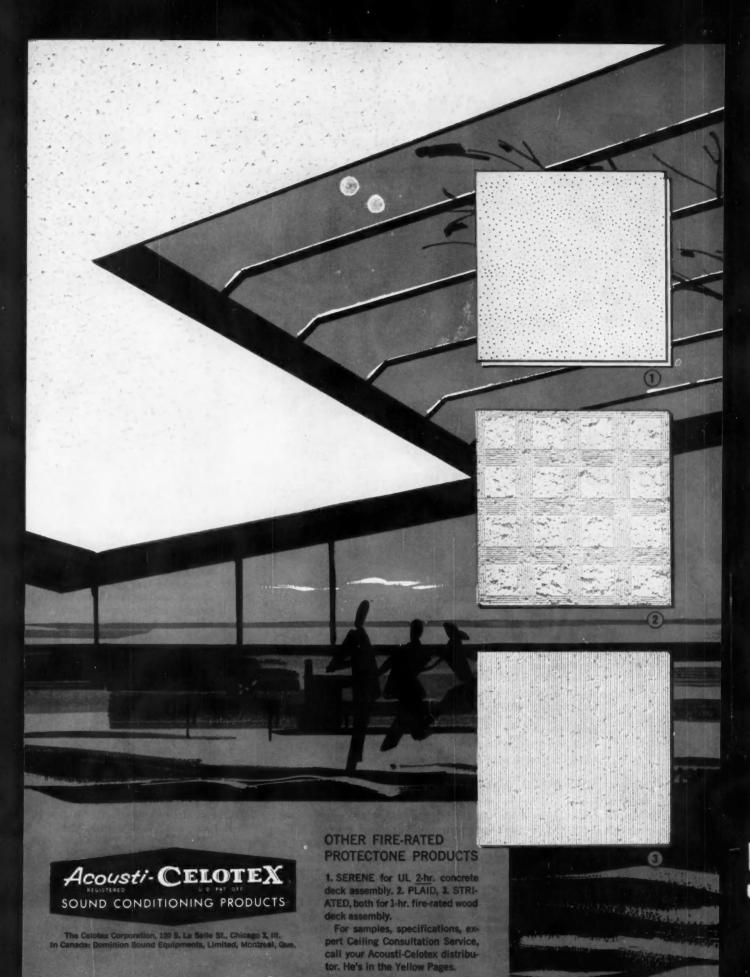
GF

# PROTECTONE acoustical tile A family of design-inspiring FIRE-RATED ceilings by CELOTEX

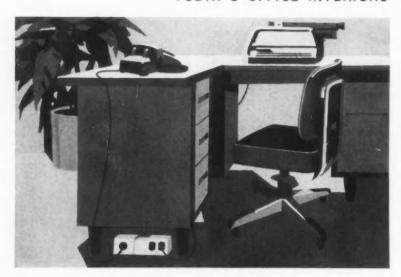
Widely varied in texture, pattern, and tonal effect . . . offering a choice of firerated acoustical ceiling assemblies . . . all with high sound absorption . . . these new PROTECTONE mineral fiber tile designs invite fresh new approaches.

SHOWN ABOVE ... exclusive with Celotex ... new Natural-Fissured PROTECTONE mineral fiber tile ... for 2-HOUR UL fire-rated ceiling assembly (including concrete deck over bar joists). All the

traditional beauty and authentic character that only natural travertine fissuring provides. Square edge, kerfed for concealed H&T suspension system. (Also for 1-hour fire-rated wood deck assembly.)



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The tapered shape and low silhouette fit inconspicuously against the side of a floor-flush desk... or under a desk.

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Easy removal of the front and back plates exposes the <a href="mailto:entire">entire</a> inside area—speeds and simplifies installation, maintenance, future circuit changes.

And, like all Cope Service Fittings, it can be furnished in attractive brushed aluminum or satin brass finish to complement every building interior.

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A CHOICE OF WIRE AND CABLE SUPPORTING SYSTEMS

### The Record Reports

continued from page 260

Society for Testing Materials
—Chalfonte-Haddon Hall, Atlantic City

26-28 Annual meeting, American Society of Heating, Refrigerating and Air-Conditioning Engineers—Denver

70170

- 3-10 Sixth Congress of the International Union of Architects; theme: "New Techniques and Materials—Their Impact on Architecture"—Royal Festival Hall, South Bank, London, S.E.I.
- 9-21 First of three seminars on atomic shelter and survival in the nuclear age; theme: "Planning Aspects of Atomic Shelter"—Pennsylvania State University, University Park, Pa.
- 10-12 62nd annual meeting, American Society of Landscape Architects—Harvest House, Boulder, Colo.
- 17-28 23rd Massachusetts Institute of Technology Special Summer Program on City and Regional Planning—M.I.T., Cambridge, Mass.
- 23ff Second seminar (of three) on atomic shelter and survival in the nuclear age; theme: "Structural Engineering Aspects of Atomic Shelter"; through Aug. 4—Pennsylvania State University, University Park, Pa.

#### Office Notes

Offices Opened\_

Robert V. Buck, architect, and Thomas L. McKittrick, associate, announce the opening of an office for the practice of architecture. Their address is 202 First National Bank Building, McAllen, Tex.

Harland Bartholomew and Associates, City Planners, Civil Engineers, Landscape Architects, have opened a new office at 412 Transportation Building, Washington 6, D.C.

A new office has been opened in Philadelphia at 138 South 20th St. by Fred S. Dubin Associates, Consulting Engineers. Mr. Desreal Putterman is in charge.

continued on page 277

PELLA PRODUCTS

THE FOCAL POINT OF QUALITY



ARCHITECT: HOWARD W. TUTTLE



ROLSCREEN

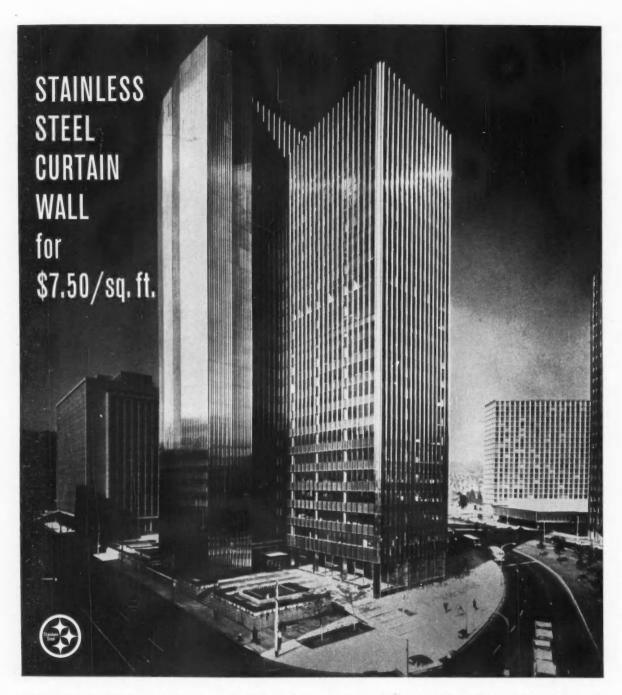
Talk about "instant this" and "instant that," PELLA Casements are equipped with "instant screens." ROLSCREENS roll down in spring-roll up and out of sight in winter!



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impress quality-conscious clients

Homeowners often tell us they thought all windows were just about alike until their architects told them about PELLA WOOD CASE-MENTS. They are always impressed with the good sense and convenience of the exclusive inside ROLSCREEN® that rolls up and down with the seasons and those self-storing inside storm panels for easier year 'round living. Best of all, the ROLSCREEN feature that makes Pella Casements "new" to most people has been user-tested by the millions. There are 18 standard ventilating sizes up to the large 24" x 68" glass size and 60 fixed sizes. Removable muntins in regular, diamond and horizontal styles offer additional design flexibility. Full specifications in SWEET'S or consult the classified telephone directory for the name of the nearest U.S. or Canadian distributor. ROLSCREEN CO., PELLA, IOWA.



Pittsburgh's Four Gateway Center is one of the most dramatic architectural uses of stainless steel in the world today. Even more dramatic to the architect, builder and owner is the remarkably low \$7.50 per sq. ft. erected cost of the stainless steel curtain wall. Washington Steel's gray ColorRold provided the means for accenting the vertical lines that make this edifice one of the most talked about buildings of our era.

4 Gateway Center, Pittsburgh Harrison & Abramovitz, Architects Limbach Co., Curtain Wall Contractor

### WASHINGTON STEEL CORPORATION

and ColorRold®

PRODUCERS OF MicroRold STAINLESS SHEET & STRIP

WASHINGTON, PA.

PELLA PRODUCTS . . .

THE FOCAL POINT OF QUALITY



CRESTVIEW COUNTRY CLUB, AGAWAM, MASS.
ARCHITECT: PERCIVAL GOODMAN, NEW YORK, N. Y





# wood folding doors

dramatize decorative schemes



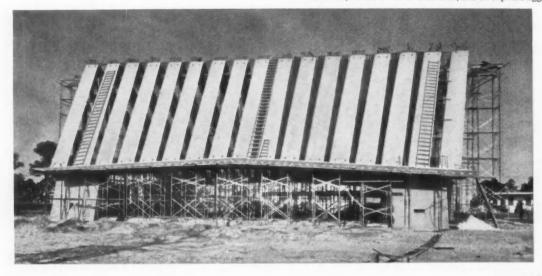
SOLID WOOD "LAMICOR" PANELS

are laminated with waterresistant, plastic glue and faced with wood veneer. Will not warp. Used as a folding mural, PELLA WOOD FOLDING DOORS can provide an effective accent to club and restaurant interiors. Select from 6 genuine wood veneers. You can specify PELLA DOORS either factory-finished or unfinished. Contrast the warmth and beauty of natural wood with vivid colors and original designs. Or, use these space dividers to harmonize with wood paneling, trim and furnishings. Patented "live action" steel spring hinging assures dependable operation of even the largest units. Full specifications in SWEET'S. Consult the classified telephone directory for name of your nearest U.S. or Canadian distributor. ROLSCREEN COMPANY, PELLA, IOWA.

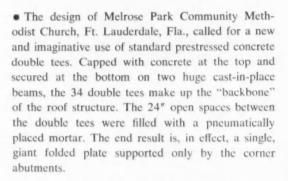
6 FINE WOOD VENEERS . AMERICAN WALNUT . WHITE ASH . BIRCH . OAK . PINE . PHILIPPINE MAHOGANY

PELLA ALSO MAKES QUALITY WOOD FOLDING PARTITIONS, CASEMENT AND MULTI-PURPOSE WINDOWS, ROLSCREENS AND WOOD SLIDING GLASS DOORS

Double tee beams are 45' long, 4' wide, 15" deep, and weigh 5 tons. The side beams, which support the double tees, are 95' long, 9' wide, 12" thick, have a 2' rise at the center, and an exposed aggregate finish.



# PRESTRESSED DOUBLE TEES for unique roof structure....

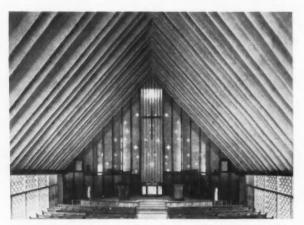


In the manufacture of the double tees, R. H. Wright, Inc. used Lehigh Early Strength Cement. Consistent use of this type of cement in their prestressing operations helps them attain maximum production efficiency through early removal of units and quick re-use of forms.

This is typical of the advantages of Lehigh Early Strength Cement in modern concrete construction. Lehigh Portland Cement Company, Allentown, Pa.



Non-load-bearing precast columns support 3' x 8' terrazzo facade panels. Bell tower is 85' high, 6' wide at the base, and was precast in 9 sections with Lehigh Early Strength Cement. Abutment structures are 10'4'' x 5' with 12'' walls, and have an exposed aggregate finish.



Acoustical plaster was sprayed over exposed double tees. The structure presently seats 510 with future plans calling for the addition of wings to increase scating capacity to over 1,000.

Architect: Robert E. Hansen, A.I.A. Engineer: Walter Harry Assoc.

Contractor: Casmal Construction Co.

Manufacture and Erection Prestressed Precast ("oncrete": R. H. Wright, Inc.
All of Ft. Lauderdale, Florida

PELLA PRODUCTS

THE FOCAL POINT OF QUALITY

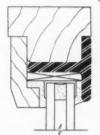


DESIGNER: BILL SELZER,



# wood sliding glass doors

add a warm note to "patio pictures"



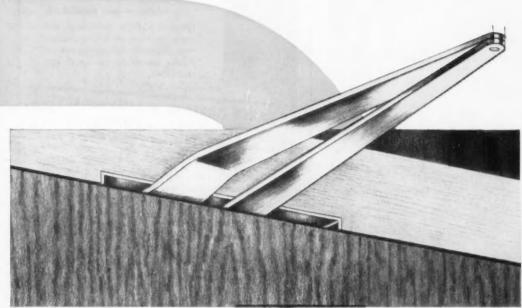
THE WELDED STEEL T-SECTION on all four sides of the 1-½" Ponderosa Pine door panels gives the PELLA SLIDING GLASS DOOR its rugged strength and slim lines.

For framing views of patios, pools and gardens, it's good to know you can work with wood. Frames of PELLA WOOD SLIDING GLASS DOORS can be finished or painted to go with any color scheme—interior and exterior. Wood frames plus a combination of stainless steel and wool pile weather-stripping make these doors completely weathertight... prevent condensation. Screens close automatically. Removable muntin bars available—regular and diamond. O, OX, XO, OXO and OXXO in 33", 45" and 57" glass widths. Standard and custom heights. Call the PELLA distributor listed in your classified telephone directory for specifications and literature. ROLSCREEN COMPANY, PELLA, IOWA.

PELLA ALSO MAKES QUALITY WOOD FOLDING DOORS, WOOD FOLDING PARTITIONS, ROLSCREENS, WOOD CASEMENT AND WOOD MULTI-PURPOSE WINDOWS



the russwin"...what

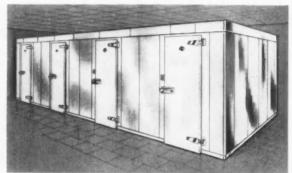


The Russwin Top-Railer — Made to "400" standards. Can be surface-mounted or concealed in top-rail.

# it means on door closers

The Russwin "R" assures (1) creative styling — smart, modern, functional; (2) Russwin quality — quality that speaks for itself; (3) freedom of choice: there's a Russwin door closer — lockset, exit bolt, or whatever doorware you need — for any door, in any building. Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.





Installation in Jamestown General Hospital, Jamestown, New York, Specifications prepared by Beck and Tinkham, Architects, Fourth and Pine Streets, Jamestown, N. Y.

#### Bally pre-fab walk-ins

all-metal coolers and freezers

# Sectional construction! Expandable any time! Costs less than built-ins!\*

Newest concept in refrigeration storage makes construction of "built-ins" on the job obsolete. Precision made pre-fab sections permit installation anywhere, any size, any shape. Easy to increase in size or disassemble for relocation. Aluminum or galvanized steel are standard finishes. Stainless Steel and acid-resistant Porcelain also available. All finishes remain sanitary . . . odor-free . . . rodent and vermin proof.

#### Free architect's fact file...

Includes guide for specification writers . . . 16-page Walk-In book . . . portfolio of 48 installation drawings and specifications. Also included is a Walk-In description form to request plans and specifications from Bally engineers for individual installations. Write on your company letterhead.

See Sweet's File section 26a/Ba.



\*Based on cost scales in Metropolitan areas.



Bally Case and Cooler, Inc. Bally, Pennsylvania

# æ

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"The architect is a master builder who may find in the language of construction the necessary words for the highest expression of art, just as the man who has mastered a language may write poetry."

Pier Luigi Nervi

from his new book

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F. W. DODGE CORPORATION
119 West 40 St., N. Y. 18, N. Y.

### The Record Reports

continued from page 268

Robert E. Langdon Jr., A.I.A., and Ernest C. Wilson Jr., A.I.A., have opened new offices at 3324 Wilshire Blvd., Los Angeles 5, Calif. under the firm name of Langdon & Wilson, Architects.

New Firms, Firm Changes\_

Scruggs and Hammond, Landscape Architects and Planning Consultants, have announced that D. Lyle Aten and John C. Lawrence, landscape architects, have been named to associate membership in the firm and that L. Donald Luebbe, city planner, has joined the staff. The firm's offices are in Peoria, Ill. and Lexington, Kv.

Carl F. Burmeister Jr. and Thomas B. Bealle Jr. have formed a partnership for the general practice of architecture under the firm name of Burmeister and Bealle-Architects. The address is 1914½ Grant St., Mobile, Ala.

Albert A. Kaufmann, formerly of 252 N. Broad St., Elizabeth, N.J., and Howard L. McMurray, formerly of McMurray and Associates, 983 Stuyvesant Ave., Union, N.J., have opened a new office at 430 Morris Ave., Elizabeth, N.J. under the name of Kaufmann & McMurray, Architects.

The partnership of Goldberg, Le-Messurier & Associates has been dissolved and two new firms for the practice of consulting and structural engineering have been formed. They are: Albert Goldberg and Associates, Inc., 669 Boylston St., Boston 16, Mass.; and Wm. J. LeMessurier & Associates, Inc., 711 Boylston St., Boston 16, Mass.

John R. Olmstead, A.I.A., is now a partner with F. A. Evans Jr., A.I.A., and John T. Davis, A.S.C.E., the firm name having been changed to Evans, Davis & Olmstead, Architects-Engineers. Offices are still at 403 Fulton St., Troy, N.Y.

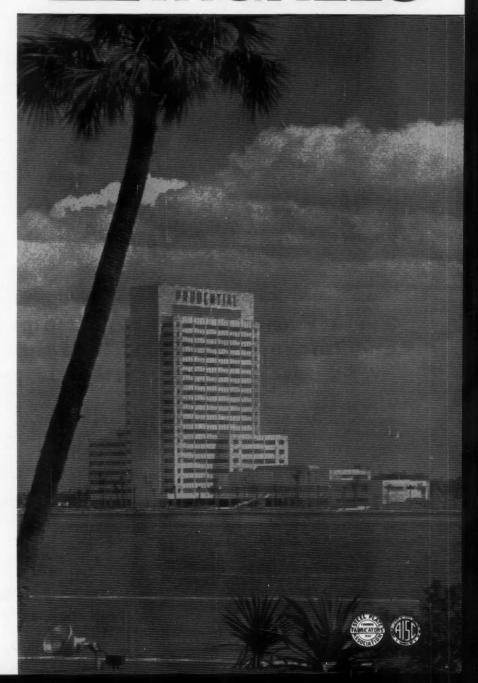
Alexander Hale, A.I.A., has joined the Chicago architectural and engineering firm of Friedman, Alschuler & Sincere. He will act as Project Manager.

J. Franklin Clark Jr., A.I.A., and McCall and Leach, A.I.A. have formed a partnership under the firm name of Clark, McCall and Leach, A.I.A., with offices at 1808 Carolina continued on page 284

### BEAUTY WITH MUSCLES OF STEEL!

When you think of steel, you think of strength. Strength to stand the test of time and stress. But in the hands of today's designers steel can also be a thing of beauty. And the beauty of steel is that it endures. Plan with steel . . . then for skill, versatility, and economy . . . specify Ingalls for the fabrication and erection. The Ingalls Iron Works Company / Birmingham, Alabama

# **EINGALLS**



**NEWS from Dow Corning** 

# SILANEAL Reduces Water



# Tests Prove: SILANEAL Helps Prevent Leaks and Improve Bond Of High Suction Brick

Both brick test tanks above were built by the same mason, using full head and bed joints from the same batch of mortar and the same type of high suction rate brick. The only difference: tank at right was built of brick which were treated at the brick plant with Silaneal. Just before the photo was snapped, this tank was filled with 8 inches of water. No leakage occurred. The other tank developed leaks even as it was being filled.

Now, look at the photo at right. It shows the same two tanks five minutes later. Note how the one built of brick treated with Silaneal still shows no sign of water penetration. The one built of untreated brick shows severe leakage at the mortar-brick interface.





**Dow Corning** 

# Penetration Of Brick Walls

# Why Silaneal makes the difference

A chief cause of leaky brick walls is mortar shrinkage which results in minute cracks at the interface of the mortar and brick. Reason for shrinkage: when a high suction rate brick is placed on fresh mortar, the brick immediately sucks considerable water out of the mortar. Thus, the mortar dries too quickly and shrinks, leaving a hairline crack.

Of course, in order for the Silaneal treatment to be effective, high quality workmanship in the laying of the brick is a must.

Silaneal treatment reduces *initial* water absorption of high suction rate brick. By applying Silaneal to the bedding surfaces of such brick, the brick manufacturer can control the suction rate, and thereby eliminate this cause of mortar shrinkage.

Until Silaneal, the recommended method for controlling this problem on high suction brick was to soak the brick. The difficulty: How long to soak? Too much absorbed water causes "floating". Too little absorption is ineffective. The common practice of spraying the brick pile also results in varying suction rates throughout the pile. Only Silaneal assures proper mortar hydration with high suction rate brick.

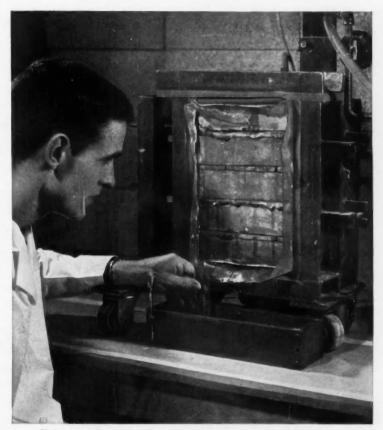
#### A better bond, a stronger wall!

Obviously, without hairline cracks at the interface of the mortar and brick, you have a better bond . . . a stronger wall. That's another good reason for specifying Silaneal treatment!

#### Other important Silaneal features

- Keeps brick clean
- Minimizes efflorescence
- Speeds construction

Get full information about Silaneal today. Write Department 0817.



Exhaustive tests, simulating wind-driven rain, have shown repeatedly: No leakage through wall panels built of high suction rate brick treated with Silaneal; Serious leakage through hairline mortar cracks in panels built of high suction brick without Silaneal treatment.

TYPE	SUCTION RATE	AFTER SILANEAL TREATMENT	MILLILITERS WATER LEAKAGE AFTER 400 MINUTES	
			Untreated	Silaneal Treated
SOFT MUD	77	9	28,145	0
EXTRUDED	43	10	80	0
DRY PRESSED	148	5	1500	0

### CORPORATION MIDLAND, MICHIGAN

# from your

# DOOR CONTROL SPECIALIST

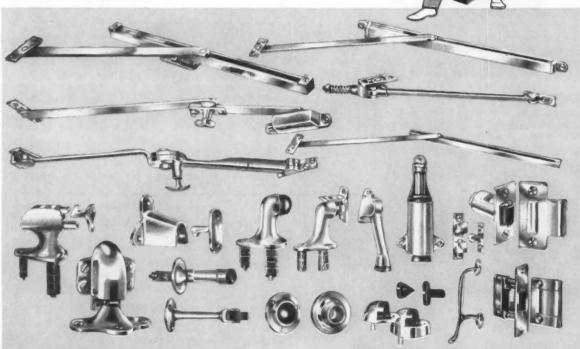
... the only complete line of door control hardware, enabling you to select to fit your exact functional and budget requirements.

... experienced analysis of every order with engineering aid when required.

... quality, the finest in materials and workmanship, consistent for over 35 years.

Your specification means more when you write in

"... shall be GJ."



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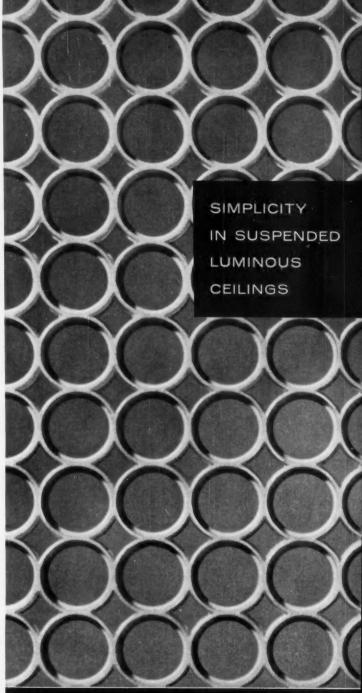
WHEN YOU recommend fine check racks for any building, you can speak with authority when you have all the facts about Borroughs racks. So send for this important literature now. It explains in words, pictures and figures the many outstanding and exclusive features of Borroughs' popular "Century" line of check racks. For instance—Borroughs suspended, reversible "Wonder Bar" can increase hanger capacities an extra 20% whenever desired—Borroughs' exclusive numbering system makes garment checking as simple as 1-2-3—the wide selection of starting units and combinations meets any garment-checking situation. Write today.

See Sweet's Catalog—23d—BO

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Actual Size Infinility

non-modular

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#### THE NEW TITUS VARIABLE VOLUME REHEAT UNIT PROVIDES MORE EFFICIENT PERIMETER AIR CON-DITIONING, GREATER OVERALL ECONOMY—MORE FLEXIBILITY IN ARCHITECTURAL DESIGN

This new unit assures the utmost in complete and continuous control of individual space temperatures and ventilation the year around. Each unit can respond to a wide range of heating and cooling demand — WITH AMAZING EFFICIENCY AND ECONOMY. Can be used with low or high pressure systems.

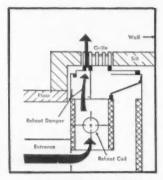
provides reheat for a minimum quantity of air during heating.

quantities of air at a constant low temperature to satisfy the changing cooling load and

LOWER INITIAL EQUIPMENT COSTS... As an example, fan capacity can be much less when Titus Variable Volume Reheat units are used. Due to solar orientation, all perimeter areas do not require maximum cooling or maximum flow at the same time. With variable volume it is then possible to design the fan capacity by the cooling air flow required at a specified time, rather than the total of the maximum flow required at each outlet in the perimeter area as would be the case with a constant air flow system.

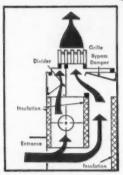
LOWER OPERATING COSTS... Operating costs are greatly reduced during heating because only about ½ of the maximum flow need be supplied with Titus Variable Volume Reheat units. ADDITIONAL SAVINGS on heating equipment and fuel costs are realized from the low air flow since A MINIMUM OF COOL PRIMARY AIR IS REHEATED. Operating costs during cooling are less, too, because unit supplies varying quantities of cooled air to satisfy changing cooling load.

GREATER DESIGN FREEDOM FOR ARCHITECT... When conventional units such as convectors, mixing boxes, etc., are used in perimeter air conditioning, they often cause unsightly, cluttered walls. The new Titus Variable Volume Reheat units can be installed under the floor with the outlet flush with the floor... or above the floor at any height desired.



## REHEAT AND MINIMUM FLOW THROUGH TITUS VVR UNIT

When heating is required, a damper shuts off about three-fourths of air flow through unit allowing minimum flow of cool air to pass through unit and be heated by finned tube. When reduced heating is called for, flow of hot water is gradually shut off until no heating of air takes place. Now unit very efficiently provides minimum cooling with same flow rate as before.



#### FULL COOLING AND MAXIMUM FLOW THROUGH TITUS VVR UNIT

When thermostat calls for more cooling, pneumatic motor begins opening by-pass damper and more air is then allowed to flow through unit until damper is full open and maximum flow and full cooling is reached. (Maximum flow li approx. 4 times greater than minimum flow). Uniform Air DISTRIBUTION is possible with Variable Volume Reheat unit because the division of air flow through the grille provides a constant velocity leaving the grille.

# Variable Volume Reheat

unit by

# TITUS

\*\*developed in conjunction with Minoru Yamasaki...Smith, Hinchman & Grylls, Associated Architects and Engineers

TESTED AND PROVED in a 2-story mock-up of the new Michigan Consolidated Gas Company Office Building in Detroit

PATENT PENDING

Shown at right is actual photo of new Titus Variable Volume Reheat units installed in mock-up of Michigan Consolidated Gas Company Office Building. The units were installed under the floor with a 3-inch pre-cast concrete sill containing Titus extruded aluminum Linear Grilles as outlets. The new Titus VVR units fully met all requirements of the variable volume reheat system. They proved capable of maintaining room temperature within 1 F—with varying heating and cooling loads.



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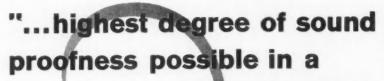
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Please rush new CATALOG giving complete details on the new Titus Variable Volume Reheat unit.

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UNITFOLD® FOLDING WA

In the Dinkler-Plaza banquet room, Unitfold Walls are used to create as many as six separate areas. Sound between these rooms is blocked with the efficiency of a 10" to 12" plaster-coated SOLID BRICK WALL. This is done through double-run wall sections, lined with acoustical material and separated by sound retarding dead-air space.

All Fairhurst Walls are solid, rigid, with virtually unlimited choice of decor. Write Dept. AR for free illustrated booklet describing Fairhurst solutions to perplexing space problems.





Units fold compactly to one side at the Dinklor-Plaza. Possible variations allow complete concealment of wall in special pockets.

Handsome grained veneers give the appearance of a permanent wall.

John T. Fairhurst Co., Inc.

45 West 45th Street

New York 36, N. Y.

FAIRHURST . . . First Name in Folding Walls

### The Record Reports

continued from page 277

Ave., Hartsville, S.C. and 107 Mill St., Kingstree, S.C.

Gerald Germanson, architect of Sioux City, Ia., and Foss and Company, Architects and Engineers of Moorhead, Minn., announce the formation of a new architectural and engineering office in Sioux City, Ia. The new firm of Germanson-Foss & Co., Architects and Engineers, has offices at 1308 Pierce St.

The firm name of Monahan, Meikle and Johnson has been changed to Johnson and Haynes, Architects. The address remains the same: 255 Main St., Pawtucket, R.I.

Slocum & Fuller, New York City mechanical and electrical consulting engineering firm, has opened a branch office in Sydney, Australia in association with Rankine and Hill. Australian civil and structural engineering firm. The office is located at 40 Miller St., North Sydney, New South Wales, Australia. The combined firm of Rankine & Hill-Slocum & Fuller will undertake either complete structural, mechanical and electrical design work or any combination of these design services for all types of commercial and industrial buildings. Technical liaison is being maintained between the two offices. Daniel Barton, senior associate member of Slocum & Fuller is in charge of mechanical and electrical design in the Australian organization.

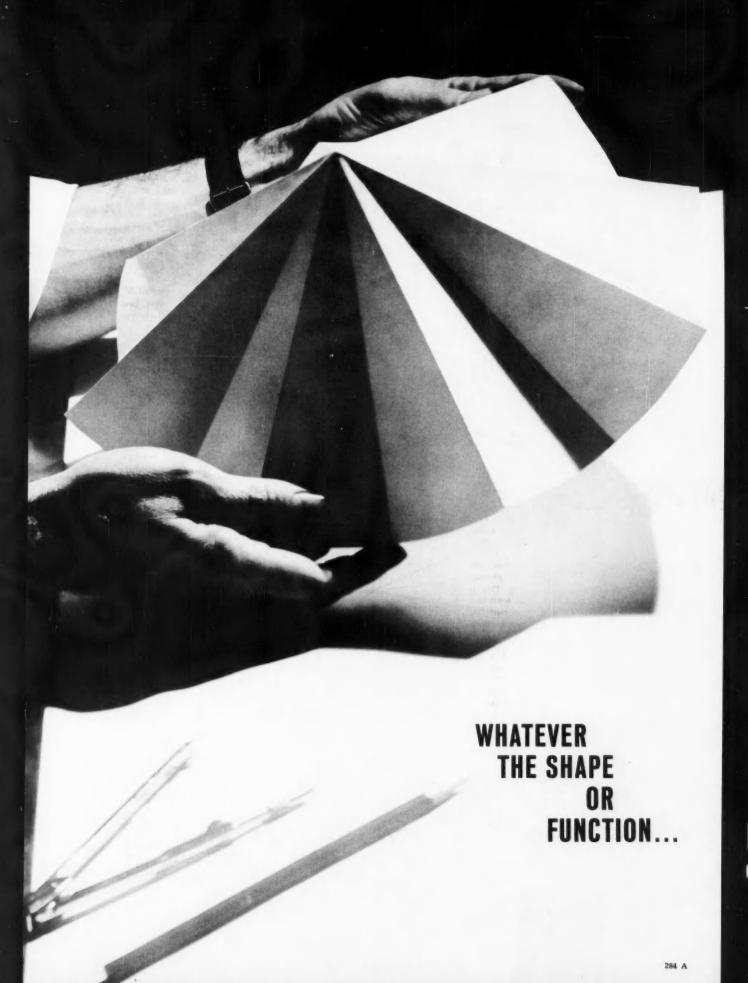
Elected to partnership in the Chicago office of the architectural firm of Perkins & Will are F. Philip Brotherton, an associate of the Royal Institute of British Architecture, and Jack D. Train, who is second vice president of the Chicago chapter of the American Institute of Architects.

The partnership of Mayer, Whittlesey & Glass having been dissolved, M. Milton Glass, A.I.A. has opened new offices for the continuation of his practice of architecture and urban planning at 630 Third Ave., New York 17.

Sherman Morss has become a member of Shepley Bulfinch Richardson & Abbott. New associates with the Boston firm are Robert T. Holloran, Richard M. Potter and Hugh Shepley.

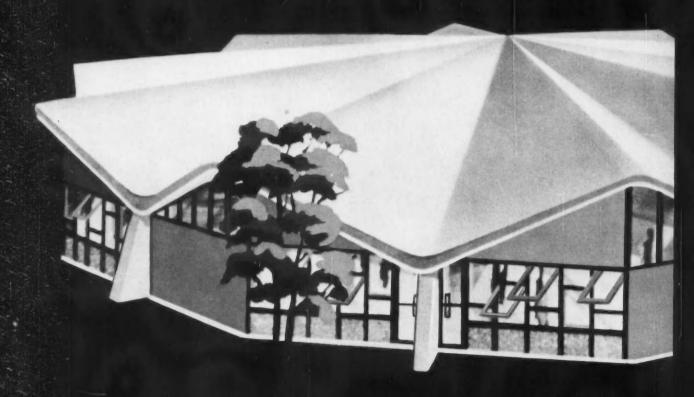
Julian Hill Whittlesey, F.A.I.A., William J. Conklin, A.I.A., and Edward G. Echeverria, A.I.P. announce the establishment of offices for the

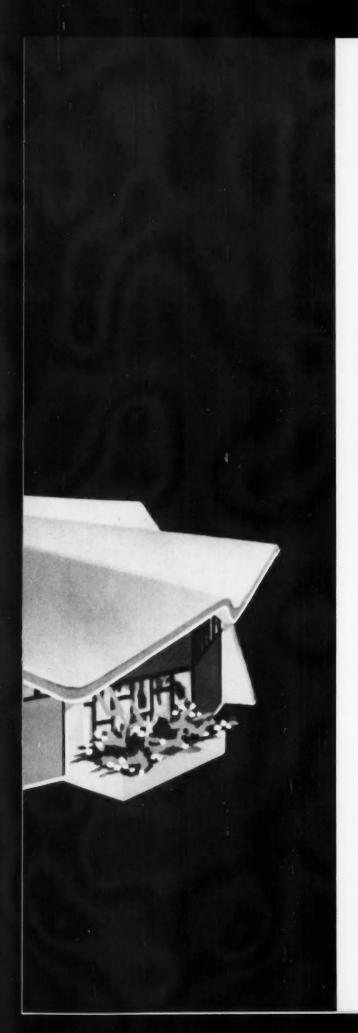
continued on page 288



# YROFILL\* combines strength and

adaptability to meet your roof deck requirements





complete Adaptability in strong, joint-free construction. Whatever roof deck shape you need to follow an idea in structure—it's buildable with Pyrofill. This poured gypsum system gives you virtually unlimited freedom in design; molds an expression of form into an unbroken, monolithic surface that is structurally integrated with the building—light enough to adapt to spans of 12 feet, strong enough to offer highest safety factors for loads and seismic forces.

**2-HOUR FIRE PROTECTION,** test-proved; lower insurance rates. Pyrofill offers far more than a mere "non-combustible" rating. Tests by independent laboratories prove it will provide one- to two-hour fire endurance—true structural protection to maintain dimensional integrity without flame spread through buckled, warped or shrunken panels. Because of this proved greater protection, fire insurance rates can be reduced as much as 30%.

LOW CONSTRUCTION COST, greatest construction control. Pyrofill offers its advantages at low, competitive cost—and offers even added savings in supplementary fireproofing materials, erection costs and steel requirements. In addition, the Pyrofill System gives you greater control of construction with responsibility for expert installation centered in a single contractor—a roof deck specialist who is skilled and experienced in all phases of poured gypsum construction.



Shown above is the attractive, light-reflective surface of USG\* Slotted Acoustical Formboard.

# 7 FORMBOARDS let you pinpoint

functional requirements A choice of seven USG\*

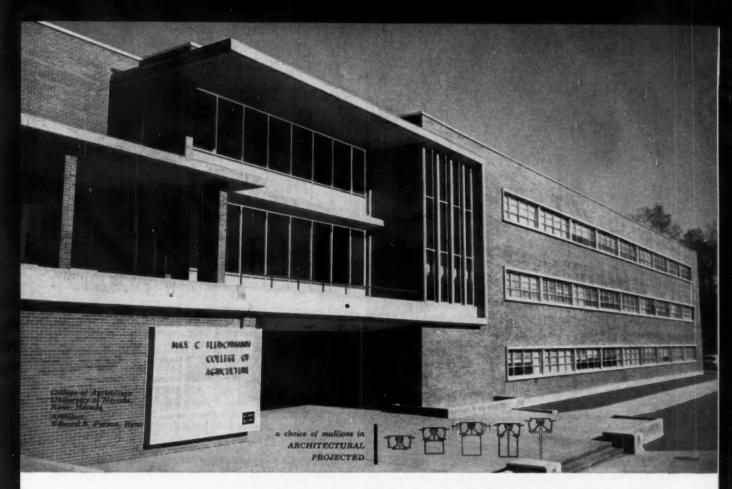
Formboards in the Pyrofill System lets you specify a variety of undersurface requirements. Select sound control, additional fire protection, insulation, attractive appearance, strictest economy . . . singly or in any combination; pinpoint the exact requirement exactly where you want it.

For complete information on Pyrofill Roof Decks, see your U.S.G. representative, or write United States Gypsum, Dept. AR-00, 300 West Adams St., Chicago 6, Illinois.

# UNITED STATES GYPSUM

the greatest name in building





# superlative effects

# ...with standard window systems from MARME

A surprising versatility in MARMET standard window systems gives you full freedom of design . . . even when planning closely budgeted jobs. In MARMET's standard Architectural Projected system (so ably employed by Edward S. Parson to accent the masonry in the College of Agriculture above), a choice of vertical mulls available in two series, permits a variety of face treatment in the design. In achieving the total effect planned by the architect, the choice of mulls is complemented by a choice of either thick or slimline extrusions, producing varying shadow patterns across the building's face.

MARMET AP's are made in many fixed lite arrangements with outward projected, hopper or casement type sash. Windows in the 5142 series are  $1\frac{1}{2}$ " in depth and  $2\frac{1}{6}$ " in depth in the 5212 series. Tubular sash is available in either series for ventilating lites where window design requires large expanses of glass. In AP's or in Curtain Wall, the flexibility of MARMET window systems gives you monumental treatment at standard engineered systems' cost. For superlative effects on your next job . . . specify MARMET.



#### Series 6442 Curtain Wall

The 6442 series permits doors to be hung right in the curtain wall section without special framing. Operating windows are built into the grid sections at the factory . . . saving the cost of installing and "plumbing" at the job site.

#### NO LINTELS - NO JAMBS

A gridwall system which lends strong accents to horizontal building lines. Mating sections, pre-assembled at the factory, simply mate as they are anchored to the building . . cutting labor erection costs on the job site.



For additional information on the complete line of MARMET products— consult Sweet's Catalog File No. 3a or write to MARMET for catalog. Mar



CORPORATION

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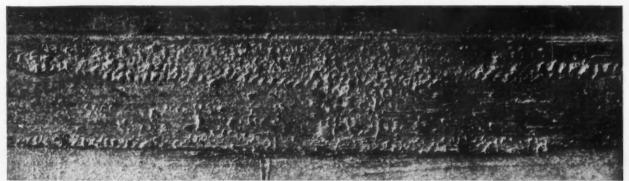
HERE IS THE APPARATUS used to make the torture scratchhardness test in the research laboratories of Foster D. Snell, Inc. A steel bit with a half-inch chisel type edge was dragged back and forth repeatedly over the treated and untreated surfaces of the concrete specimens at an angle of 30° from the horizontal and under a load of 20 pounds. Machine was operated at 19 cycles per minute.

# CAN YOUR FLOORS SURVIVE THIS TORTURE TEST?

LAPIDOLITH makes concrete floors highly resistant to the worst traffic conditions, as proven by the Torture Test conducted by the independent research organization of FOSTER D. SNELL, INC. The Foster D. Snell, Inc. torture test applied to untreated concrete resulted in severe damage to the floor.

These actual and unretouched photos of the torture test prove conclusively that LAPIDOLITH imparts a higher degree of scratch and abrasion resistance to concrete, actually changing the nature of the concrete. Typical concrete sealers with "alleged" hardening qualities offer scratch and abrasion resistance only as long as the surface film remains continuous and unbroken. Once this surface film is removed or broken, which occurs during normal traffic wear, the concrete "treated" is as vulnerable as untreated concrete.

The fact remains that there is no floor sealer that can possibly function as anything more than a sealing compound when applied to set and dry concrete. Floor sealers simply cannot chemically harden concrete. Sonneborn has an excellent and a complete line of floor sealers and curing compounds which Sonneborn recommends for specific purposes for which curing and sealing compounds are designed. Sonneborn does not, and will not recommend a curing and sealing compound as a concrete floor hardener. Sonneborn recommends LAPIDOLITH as the best treatment for hardening concrete floors.



HERE IS WHAT HAPPENS when concrete is not treated. After 500 strokes, the untreated concrete shows wear of 0.0035 inch; the equivalent of 3½ mils. The surface is broken and badly worn.

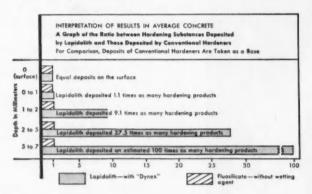


ANOTHER SPECIMEN OF THE SAME CONCRETE was treated with a coat of typical sealer. After 500 strokes, the surface showed wear of 0.0007 inch, the equivalent of 2/3 of 1 mil. The surface appeared unbroken. But, took what happened when the sealer was stripped away. Photo is of block abraded after stripping by paint and varnish remover. The concrete showed erosion to a depth of 0.0027 inch; or the equivalent of 2.7 mils. The surface was broken and badly worn away.

# LAPIDOLITH hardened concrete floors can take the grind of day in and day out traffic.

Here are some additional facts about LAPIDOLITH:

1. ONLY LAPIDOLITH CONTAINS DYNEX. Because of Dynex, LAPIDOLITH not only chemically hardens the surface, but penetrates deeply into the sub-surface pores and capillaries giving greater HARDNESS IN DEPTH. Proof of hardening in greater depth is shown in chart below. These radioactive tracer tests, were conducted by FOSTER D. SNELL, INC.



- 2. RESISTS INSTANTANEOUS ACID ATTACK. LAPIDOLITH protection permits enough time to flush off acids before the concrete is harmed. (Proof of acid test available on request.)
- 3. GUARANTEED. LAPIDOLIZED concrete floors are fully bonded and guaranteed for 5 years against concrete dusting as a result of abrasion and wear, when applied under contract by Sonneborn—America's foremost manufacturers of liquid chemical concrete floor hardeners.
- **4.** PROVEN SUCCESS. LAPIDOLITH is the *original* chemical floor hardener and has been distinguished by having received the famous "Brand-Names-Award." Over

half a billion square feet of concrete floors have been successfully LAPIDOLIZED in the past 57 years.

**5.** EASY TO APPLY. LAPIDOLITH is a laboratory controlled, factory prepared, stabilized colorless solution and very simple to apply.

# "CUSTOM DESIGNED" LAPIDOLITH CONCRETE FLOOR SYSTEM

There is no one product or system that can perform all the functions required for all concrete floors. Floors are individually designed for different purposes, and every one product or system may be either under-designed or over-designed for the specific requirement. Only Sonneborn offers you a "custom designed" LAPIDOLITH Concrete Floor System to help you with your specific floor problem. Sonneborn is the one company you can come to with all your concrete floor treatment requirements.

At no obligation to you, we will have one of our qualified floor specialists make an expert inspection and recommendation for you.

Replacing worn-out concrete floors will cost you many times more than a simple, low cost, application of LAPI-DOLITH. WRITE TODAY FOR FREE INSPECTION.

All photos are actual and unretouched and are of tests made by FOSTER D.SNELL, INC., with their facilities and under their supervision.

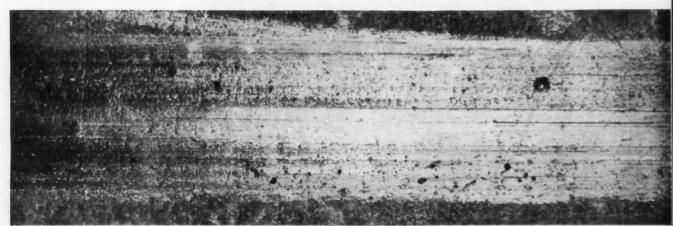


# SONNEBORN CHEMICAL AND REFINING CORPORATION

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HOUSTON, CHICAGO, LOS ANGELES, TORONTO

Always Consult Your Architect or Engineer



HERE YOU SEE THE LAPIDOLITH treated concrete after 500 strokes. Note that even under six magnifications the surface appears unbroken, with total wear being measured at only 0.0003 inch! The equivalent of 1/3 of 1 mil! Particles of metal may be seen imbedded in surface of the concrete.

### The Record Reports

continued from page 284

practice of architecture and city planning in the United States under the firm name of Whittlesey & Conklin and offices for consultation on projects in other countries under the firm name of Whittlesey Conklin & Echeverria. New associates are James S. Rossant, R.A., and Jonas Vizbaras, R.A. The address of the firm is 31 Union Square, New York 3.

William Bailey Smith, A.I.A., formerly a partner in the Baton Rouge, La. firm of Bodman & Murrell & Smith, Architects and Engineers, is now assistant to Edward D. Stone, F.A.I.A. The name of his former firm has been changed to Bodman, Murrell, Landry & Webb. Mr. Smith is past president of the Baton Rouge chapter of the A.I.A., former secretary-treasurer of the A.I.A. Regional Council and a past vice president and past president of the Louisiana Architects' Association.

Harold K. Pratt, P.E., has been appointed to the staff of Stanley En-

gineering Company. He is chief civil and hydraulic engineer with the firm's headquarters in Muscatine, Ia. Registered in New York and California, Mr. Pratt is a Fellow, American Society of Civil Engineers; chairman, A.S.C.E. Committee on Hydraulic Structures; and immediate past chairman, Hydraulics Division, San Francisco Section, A.S.C.E.

The partnership of Francis B. Jacobberger, F.A.I.A., Everett B. Franks, A.I.A., and Richard W. Norman, A.I.A., has been formed under the firm name of Jacobberger-Franks-and-Norman, Architects. The address is 512 McKay Building, Portland 4, Ore.

A. J. Nelson, State Architect, Department of Administration, St. Paul, Minn., announces the appointment of Mr. Max Fowler as Architect II to the staff. Prior to his appointment, he was employed in the Department of Plant Services of the University of Minnesota.

The firm of Morris Lapidus, Kornblath, Harle & Liebman has been dissolved and the new firm of Leo Kornblath Associates formed for the practice of architecture, planning and interiors. The new firm is located at 18 E. 41st St., New York 17.

Two new directors have been elected to the firm of F. H. McGraw & Company, Engineers and Constructors, New York City. They are both vice presidents of the company, Maurice Knopf of Hartford and Joel Morris of New York.

New Addresses

Richardson, Severns, Scheeler & Associates, Architects, 606 South Neil St., Champaign, Ill.

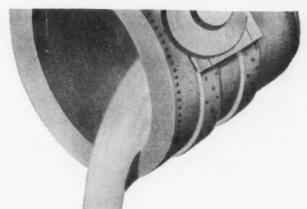
Craig Ellwood Associates, 8322 Beverly Blvd., Los Angeles 48, Calif.

#### Elections

Frank L. Hope, a principal in the San Diego architectural firm of Frank L. Hope & Associates, has been elected 1961 president of the California Council of the American Institute of Architects. He is a past president of the Institute's San Diego chapter and a member of the San Diego Planning Commission and the American Society of Military Engineers.

Other officers elected were: William Stephen Allen, San Francisco, continued on page 292





# Indestructible Architectural Beauty

to match the beauty of America's new stainless steel structures, entrances, doors, window frames.

#### HAGER STAINLESS STEEL HINGES

- ... the aristocrat of metals
- ... the craftsmanship of a master

HAGER HINGES OF #302 STAINLESS STEEL (selected from the nearly 50 types of stainless) is the finest stainless steel for hinges...for hardware. Its appearance and performance are flawless. Its function is eternal...its hardness can't outmatch Hager craftsmanship.

When the finest possible quality is indicated, specify all butt hinges in HAGER #302 STAINLESS STEEL.



all Hager Hinges available in AISI type-302 Stainless Steel (chrome-nickel); also AISI type-430 or other types, when specified.



#### Its initial higher cost is justified!

- 2 times the strength of hot rolled Carbon Steel (tensile strength 80,000 psi).
- No discoloration. Hygienic! Easy to keep clean. Hager AISI type-302 Stainless Steel looks new years after lesser metals have badly discolored and corroded.
- No corrosion. Type-302 is homogeneous, dense, austenitic type stainless (hardenable by cold working), hi-chrome nickel steel; no plating or protective coating to peel off; its own natural surface beauty is eternal; scratching will not lay a foundation for corrosion.
- Less frictional wear. Hager Stainless Steel hinges swing smoothly, silently, forever.
- Lustrous, low-reflective beauty. Universally used in the architectural field.



EVERYTHING HINGES ON Haget!



# TENSILFORM' BY WHEELING



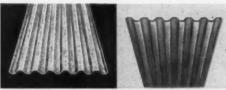
n and Steel Institute's Design Manual for Light Gauge Structural Shapes (1960 Edition).



# Big, wide, wonderful open space!

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### The Record Reports

continued from page 288

vice president; Donald E. Neptune, Pasadena, secretary; Joseph J. Jozens, Sacramento, treasurer; and C. Day Woodford, Los Angeles, member-at-large.

New officers of the Oregon Chapter, Inc. of the A.I.A. are: Everett B. Franks, president; Robert B. Martin, vice president; John W. Foster, secretary; Neil Farnham, treasurer; G. Murlin Drury, director; and Frederick Rudat, director.

#### Lasker Trust Creates Program for City Planning Scholarships

At the annual meeting of the National Housing Conference held in March, a national program of scholarships and fellowships for training in housing and city planning was announced. The scholarships will be financed by a trust fund of \$300,000 established by Miss Loula B. Lasker of New York City. Miss Lasker, who

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died on January 28th, devoted her life to housing, slum clearance and other welfare activities, was a founder and member of the Board of Governors of the Conference and a member of the New York Citizens Housing and Planning Council.

The trust will provide for the training of 100 to 200 experts in housing, urban renewal and city planning over the next 15 years. Miss Lasker recognized that in these comparatively new activities, a shortage of adequately trained professional leadership is a major impediment to local and national programs which have grown rapidly during the post war years.

Trustees for the Loula Lasker Scholarship Trust include: Dr. Robert Weaver, recently appointed Housing and Home Finance Administrator; Mr. Charles Abrams, attorney and author of New York City; Dr. William Wheaton, director of the Institute for Urban Studies, University of Pennsylvania; Mrs. Catherine Bauer Wurster, author and professor of city planning at the University of California; and Mr. Lee Johnson, director of the Denver Housing Authority. They are all officers of the National Housing Conference. In addition, Mr. Phillip W. Haberman, New York attorney, will serve as a Trustee. Dr. Charles Ascher, professor of political science at Brooklyn College, is an alternate.

Commenting on the establishment of the Trust, president of the N.H.C. Nathaniel S. Keith said the Lasker Fellowships emphasize Miss Lasker's "lifelong conviction that the goals of housing and urban renewal are the improvement of human welfare, and that only through the leadership of dedicated individuals will our goals in housing be recognized."

Dr. Wheaton termed the Lasker Fellowships "the first national recognition of the growing importance of training in this field." He said, "They will make a major contribution to the expansion of graduate training and professional leadership now needed so badly."

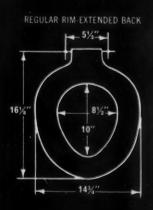
Mr. Abrams expressed the hope that the Trust would be able to announce its program in detail before September, 1961.

this object, this shape is right." Fiberglass construction, color selection (at no extra cost!) and HAWS Craftsmanship are also "right." Your Sweet's File can give you more details. Or write to HAWS for the comprehensive catalog. 21/ DRINKING FOUNTAINS HAWS DRINKING FAUCET COMPANY 1441 Fourth Street • Berkeley 10, California Export Dept.: 19 Columbus Ave., San Francisco 11, California NEW SEAT DESIGN ...

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In specifying Styrofoam insulation board for the 350-bed Sibley Memorial Hospital, the Architects provided a three-fold advantage. First, Styrofoam insulation acts as its own vapor barrier, an important factor in areas where high humidity levels must be maintained, such as nurseries and operating rooms. Second, its permanently high insulating efficiency assures keeping even temperatures throughout hospital rooms, thus helping to assure maximum patient comfort.

The third reason was economic. Styrofoam permits savings in construction costs. For example, Styrofoam insulation was used as a "plasterbase," eliminating furring and lathing. In this method, Styrofoam insulation is bonded to the masonry walls using portland cement mortar; plaster is then applied directly to the Styrofoam. This technique often results in a wall insulated at a lower cost than conventionally insulated masonry walls and in some cases at a cost equal to or lower than uninsulated masonry walls.

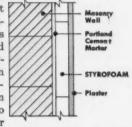
Construction costs were drastically reduced in building air intake plenums. Because Styrofoam insulation board provides its own horizontal support, external supporting members were done away with. In this application, Styrofoam reduced construction costs by almost half.

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#### The Record Reports

continued from page 292

#### Architects' Tour of Japan Planned

The 1961 annual Architecture and Gardens Tour of Japan will leave from Los Angeles on October 6 for Tokyo, according to tour director Kenneth M. Nishimoto, A.I.A. The 24-day tour will give architects and allied professionals a comprehensive look at buildings of architectural importance and at old and new gardens.

By request a special 9-day posttour extension (October 30-November 7) to western Japan is being added to introduce tour members to less well known parts of the country.

Since the tour membership is limited to 25 persons, early registration is advised. For further information, write Kenneth Nishimoto, A.I.A., 263 South Los Robles Avenue, Pasadena, Calif.

#### Architects Join Planning Team: New York North River Study

The architectural firm of Eggers and Higgins is one of three firms to make up a planning team whose purpose is the study of a six-mile long North River waterfront between the Battery and 72nd Street and its relation to the Port of New York for the years 1960 through 2000. Other members of the team are: Ebasco Services, Inc., Management Consultants, Engineers and Constructors; and Moran, Proctor. Mueser and Rutledge, Consulting Engineers. The three firms will retain Dr. Herbert B. Dorau, a specialist in land use, professor of economics at New York University and chairman of the University's Public Utilities and Transportation Department, as consultant.

The team will work in collaboration with engineers of the New York City Department of Marine and Aviation headed by Rear Admiral Roy T. Cowdrey, consulting engineer, and Captain Lewis H. Rabbage, chief engineer.

The (estimated) \$300,000 economic, engineering and architectural planning study has been approved by Mayor Robert F. Wagner and the Board of Estimate. Accord-



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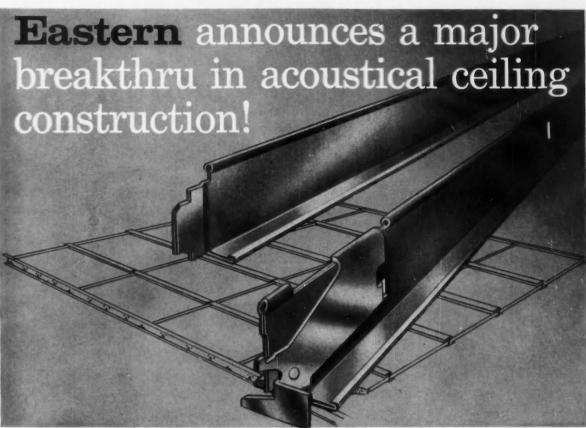


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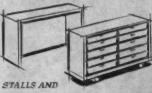
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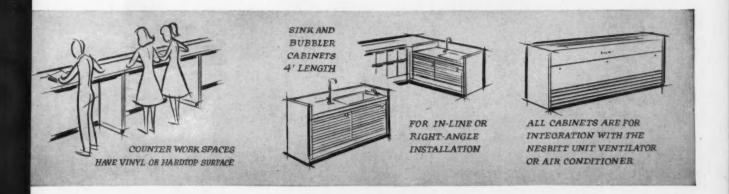
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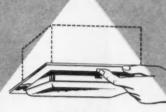
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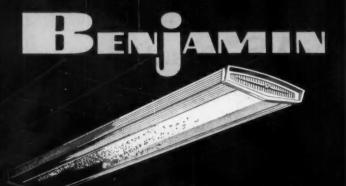
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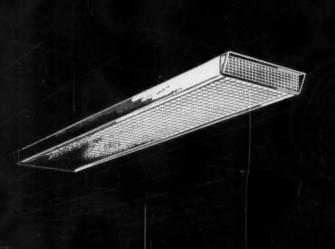
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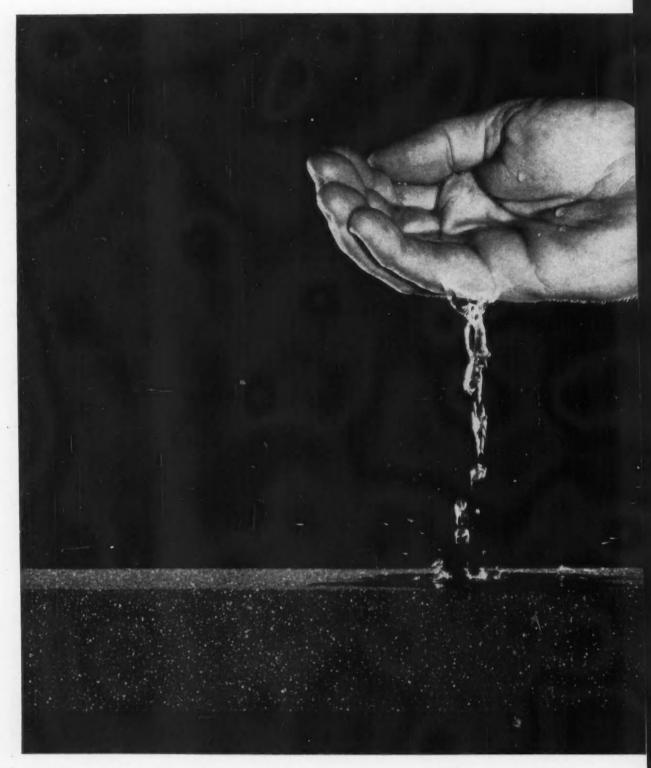
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#### The Record Reports

continued from page 296

ing to Vincent A. G. O'Connor, Department of Marine and Aviation, who feels that this study is "basically important to the continued redevelopment of the City's waterfront and to the future economic strength of its port," "One of the im-mediate objectives will be an inquiry into passenger ship terminal requirements." He said, "In advance of the 1964 World's Fair and consistent with President Kennedy's program of encouraging tourism, we expect to attack the problems of the physical requirements of ship berthing, modern facilities for customs . . . and the relief of traffic congestion in the area of the passenger ship piers . . . we expect either to develop new or redevelop existing passenger ship terminals to make New York, America's greatest port, a most happy gateway for the traveling public."

Within one year the consultants are to submit a preliminary report, including studies, drawings and preliminary cost estimates. In 90 days following review by the Department, the consultants will deliver a final report.

Eggers and Higgins will be particularly concerned with digesting the information accumulated in the studies of what land will be available and to what use it can best be put. They will recommend alternate and multiple uses of waterfront and adjacent properties for parking facilities, housing, commercial, industrial and other possible uses for public and semi-public facilities. These would include apartments, motels, boatels and a heliport.

The North River study is the third survey to be undertaken by the Department of Marine and Aviation to determine the potential and plan the redevelopment of important areas of New York City's waterfront. It is the only one which uses an architectural firm as an integral part of the study team.

The first was the survey, at a cost of more than \$100,000, of the one and three-quarter miles of lower Manhattan's East River commercial waterfront. Made by consulting engineers, Tippetts-Abbett-McCarthy-Stratton in collaboration with the Department of Marine and Aviation continued on page 308





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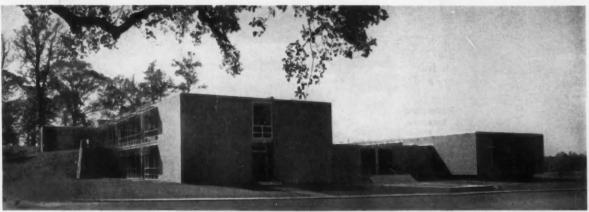
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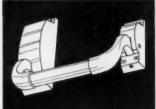
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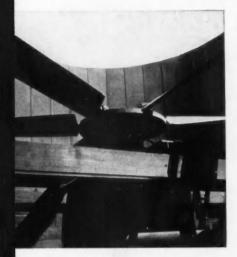
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#### The Record Reports

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engineers, the study resulted in the Board of Estimate's approval of a \$40,000,000 project to redevelop the

The second of the port studies, at a cost of \$67,000, was conducted by the Department in collaboration with the consulting engineers, Parsons, Brinckerhoff, Quade and Douglas. This study, now in progress, involves the mile of City-owned piers on Staten Island.

#### Brunner Scholarship Awarded Architects Miller and Connell

The annual Arnold W. Brunner Scholarship of the New York Chapter of the American Institute of Architects has been presented to architects Richard A. Miller and Arnall T. Connell for their study of visual perception as it is related to design. The winners were chosen from a total of 36 applicants from throughout the country.

Mr. Miller, visiting lecturer, and Mr. Connell, assistant professor, both at Ohio State University, will receive \$3000 to complete their study relating the psychological and physiological concepts and principles of visual perception to environmental design. According to the Brunner Awards Committee, the subject is of vital importance at this time. The materials which evolve from their research will be useful in the practice, teaching and learning of designing buildings and cities. At present there is no existing literature applicable to the architectural field on this top-

In addition to the Scholarship award, two grant-in-aids of \$2000 each were made by the committee. The recipients of one were Harold Edelman and Stanley Salzman, associate professors of architecture at Pratt Institute, for completion of their book on principles of architectural composition. Mr. Edelman and Mr. Salzman were given a Brunner grant of \$1000 in 1960 to start their

The other \$2000 grant-in-aid went to G. E. Kidder Smith to finish his work "A Guide to Contemporary Architecture in Europe." Mr. Smith received the 1959 Brunner Scholarship which he used to launch his work.

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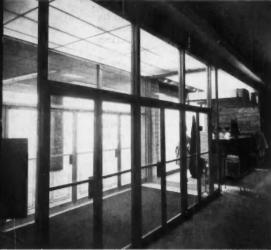
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#### The Record Reports

continued from page 308

#### Three Architects Win Rome Prize Fellowships

Three architects are among eleven artists and scholars to receive Rome Prize Fellowships for one year each, beginning October 1, 1961. The fellowships carry \$3000, free residence and studio at the American Academy in Rome.

The architects are Robert M. Golder of Philadelphia, Pa., who received his Bachelor in Architecture in 1960 from the University of Pennsylvania and expects his Master in Architecture in 1961; Bernard N. Steinberg, New York, N.Y., who has a Master in Architecture from the University of California; and Charles T. Stifter, Birmingham, Mich., who has a Master in Architecture from Massachusetts Institute of Technology and is with Eero Saarinen & Associates.

Founded in 1894, the American Academy in Rome is devoted to furthering the development of fine arts and classical studies in the U.S.

#### Architect Sprague Wins Ford Foundation Fellowship

Architect Chester Sprague of Boston, Mass., was among eleven recipients of Ford Foundations Fellowship awards ranging from \$4500 to \$7500 for studies in the creative arts.

The fellowships are designed primarily to assist persons not regularly associated with academic institutions to undertake studies of potential significance to others interested in the creative arts.

Mr. Sprague's subject of research is pre-historic, historic and contemporary architecture of the pueblo-dwelling Indians of the southwestern United States.

#### Institute of Puerto Rico Honors Jose Fernandez

José A. Fernandez, A.I.A., vice president of the Architects League of New York, has received the "Citizen of the Year 1960" award from the Institute of Puerto Rico. At present Mr. Fernandez is working on blueprints for the El Plaza Hotel which will be constructed in Santurce, Puerto Rico.



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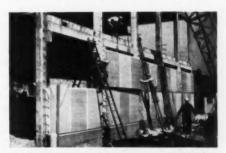
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